International Management Digest®

SEPTEMBER 1958
ONE DOLLAR (U.S.)

THE McGRAW-HILL PUBLICATION OF WORLD BUSINESS INFORMATION

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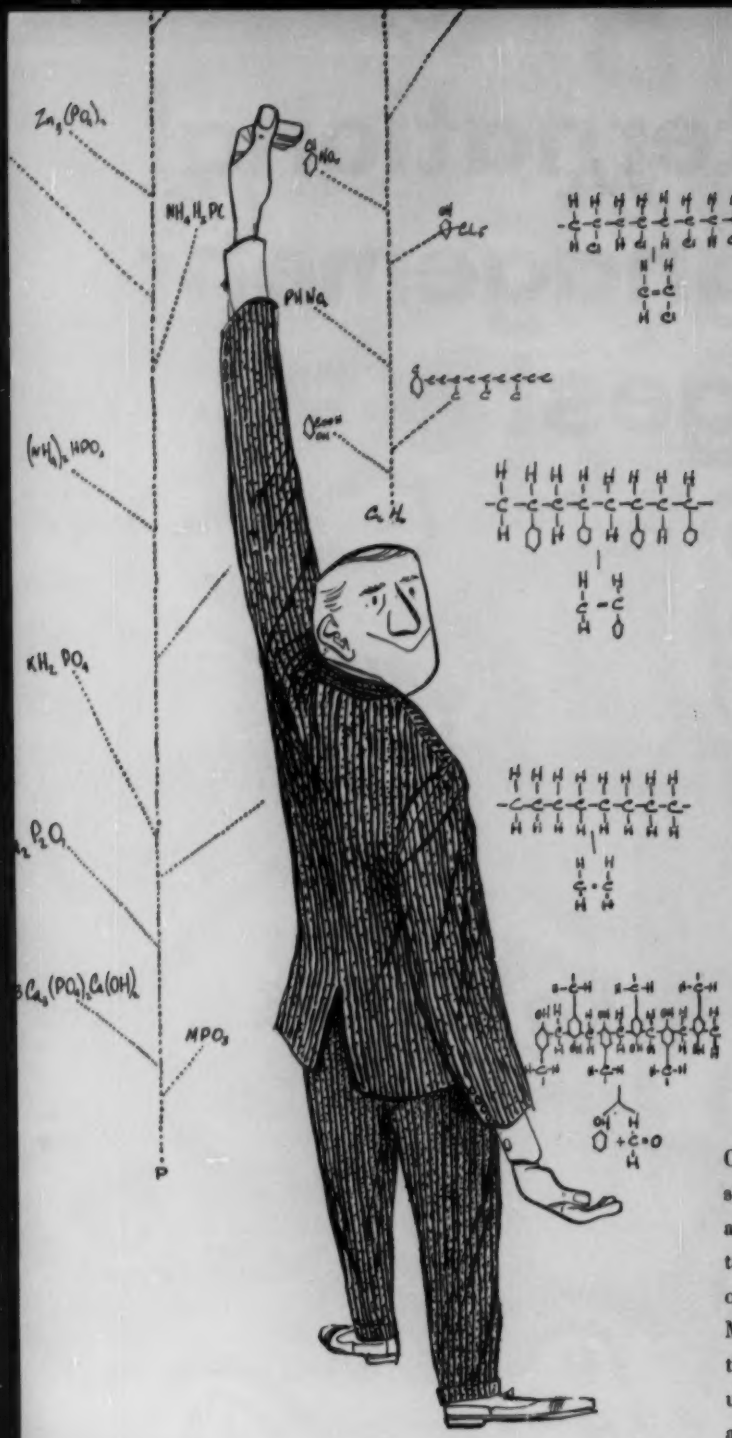
O.S.



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LOOKING AHEAD

World Affairs

A Quick Forecast

Total world trade was about 8% below 1957 in the first half of 1958. The decline, which began just a year ago after five years of expansion, is likely to continue for a time as primary-producing countries are forced to curtail their buying. But no severe drop in trade is expected.

For the U.S.A., commercial exports will finish 1958 about 15% below 1957; imports no more than 6% off, and less if the business up-turn in America gathers speed. The surprisingly heavy net outflow of capital from the U.S.A. will continue. Indeed, American private capital investment abroad may set a new record this year.

Uncle Sam's Trade Policy

At long last the Congress has re-enacted the U.S.A.'s reciprocal trade program—and extended it for the longest period ever. Now it is time to ask about the program's effects on world business.

There are many "if's". But this much is clear today:

—**The program's extension is most important as a reassuring symbol**—that the U.S. will stand by a basically liberal approach to trade problems. It gives Washington some of the flexibility it needs to cooperate with the European Common Market.

—**The President's authority to lower tariffs** is the broadest Congress has approved since 1934. Because much of the "fat" has already been cut out of existing tariff schedules, future reductions may have a more significant qualitative impact on the market, even if they are relatively smaller quantitatively than previous tariff cuts.

But: The renewed trade program will not mean any important shifts in U.S. trade patterns for several years. Existing trade agreements and tariffs will not be altered significantly until 1962, when the European "Six" are supposed to start working toward their common tariff.

Note, too, that the effectiveness of the U.S. trade law in expanding commerce depends on how it is administered. There are some important escape clauses in the new act, and it may be easier for some U.S. industries to apply for protection. But the escape loopholes are permissive, not mandatory on the President, and depend on the trade policies of the White House. These policies seem firmly set along liberal lines.

More Business, More Inflation?

There is little doubt now: The 1957-58 recession in the U.S.A. is over (IMD—Aug. p9). Everywhere there are signs of improvement—in lines as diverse as rayon and steel, for example.

In fact, Washington economists worry about "too much" improvement, and are studying anti-inflation plans where several months ago they talked about recession remedies. And you hear private investment advisors warning that their hopes for a stable dollar are ebbing.

Consumer buying is restrained as yet (keep an eye on this autumn's auto market). But government spending and housing are strong, and it looks as if the inventory cycle has hit bottom. The trouble in the Middle East reminded many businessmen that their stocks had gotten very low,

Turn the page for more WORLD AFFAIRS

and many observers now look for moderate inventory accumulation.

Certainly the Middle East crisis contributed a little added lift to commodity prices world wide. But note that there was a strengthening of industrial raw material prices even before the Iraqi revolt, and some businessmen had already begun placing new orders.

Petroleum and Politics

The problem of Middle East petroleum is long-term. Arab leaders seem aware of a mutual stake: European markets provide vital revenues. A shutdown—or outright nationalization—seems unlikely—barring war.

But there will be changes. The pattern is apparent everywhere. Producing countries are pressing for larger profits and a greater voice in operations, including marketing and pricing policies. Middle East countries may take a hint from Argentina's recent decision to hire private companies to exploit their oil rather than granting concessions.

Petroleum cannot be separated from politics in the Middle East, and politics is the unpredictable element. But recent events suggest that Arab nationalism will continue to forge its own destiny.

That means both East and West will be forced to show more respect for Arab "neutralism"—though there are considerable disagreements over adjectives to describe it. And not to be discounted is this possibility: For the first time, Col. Nasser may have competition as leader of the more dynamic brand of nationalism from the new rulers of Iraq.

Sooner or later, of course, the problem of Israeli security will come up: What place can Israel find for itself in the new Arab world?

The Middle East crisis has had other repercussions that should be noted. India's Nehru and Yugoslavia's Tito have been strengthened as "neutral" leaders. The Communist satellites continue to move closer to Moscow. And perhaps most important of all, the Western "Big Three" have gotten down to the serious business of establishing a "posture" toward the Middle East —and are right now trying to find a political and economic policy that will enable them to work with Arab nationalism.

The Trends of Business

Troubled Textiles: While there were a few faint signs of improvement here and there, recovery from the world textile slump will be slow—and painful for many mills. Nearly all leading producing countries face depressed markets, too much capacity, import pressure; only India, France, and Italy seem to find problems less severe. One dramatic trend: Communist China's explosive invasion of Asian markets, selling cotton piece goods at low prices, with long credit terms and lots of propaganda.

The Auto World gets more complicated each day as producers look to their competitive position. France's Simca joined forces with Fiat of Italy to assemble cars in Morocco . . . Chrysler (the only American producer without a small foreign auto) buys into Simca . . . Daimler-Benz is said to be looking for a partner to help meet competition in the Common Market . . . General Motors in the U.S.A. has a project that looks like a new small auto . . . Automakers Nissan and Toyota of Japan have launched an invasion of the U.S. market . . . Volkswagen plans a major rise in output next year.

Keep an eye on Lisbon in October. The 45 member nations of the International Convention for the Protection of Industrial Property will meet—to discuss agreements that protect patents, trademarks, trade secrets. Some drastic changes may be in prospect.

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D-17 Tractor and Model K offset type disc harrow preparing land for planting rice.

SEPTEMBER 1958
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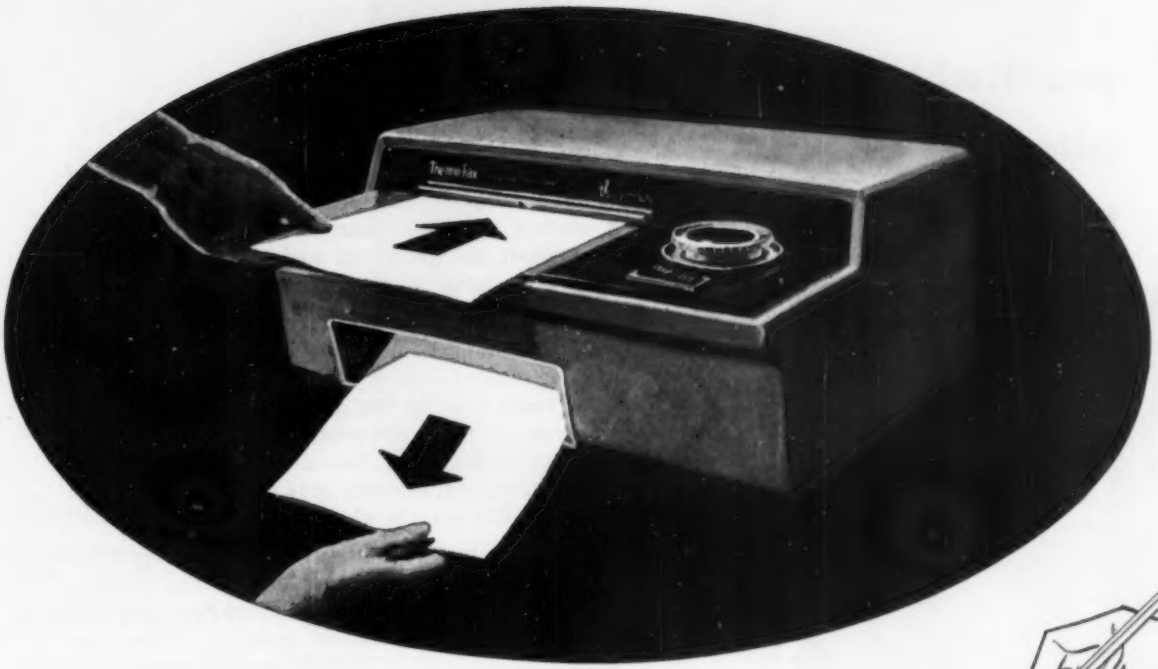

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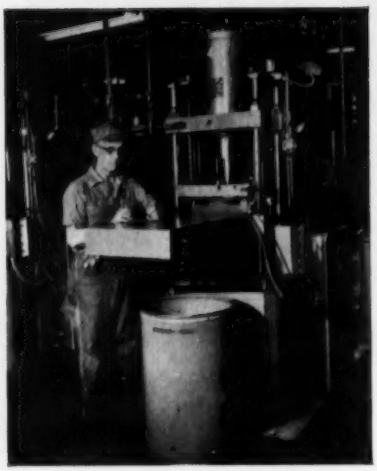

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The Editor Reports

FROM TIME TO TIME, we take a quick, inexpensive tour of the business world—seeing in our mind's eye both the bustling centers and back streets of commerce, and speculating about the problems and plans of the men who make the decisions in the international economy.

The "tour" takes but an hour or two, costs nothing, and is very revealing. It consists of browsing for a while among the small file cards in which this office abounds, each one of them bearing the name and title of a subscriber to INTERNATIONAL MANAGEMENT DIGEST, plus his firm, its location, and its business. Because this journal is sold by subscription to businessmen only, and has no newsstand sale, we know exactly where each copy goes.

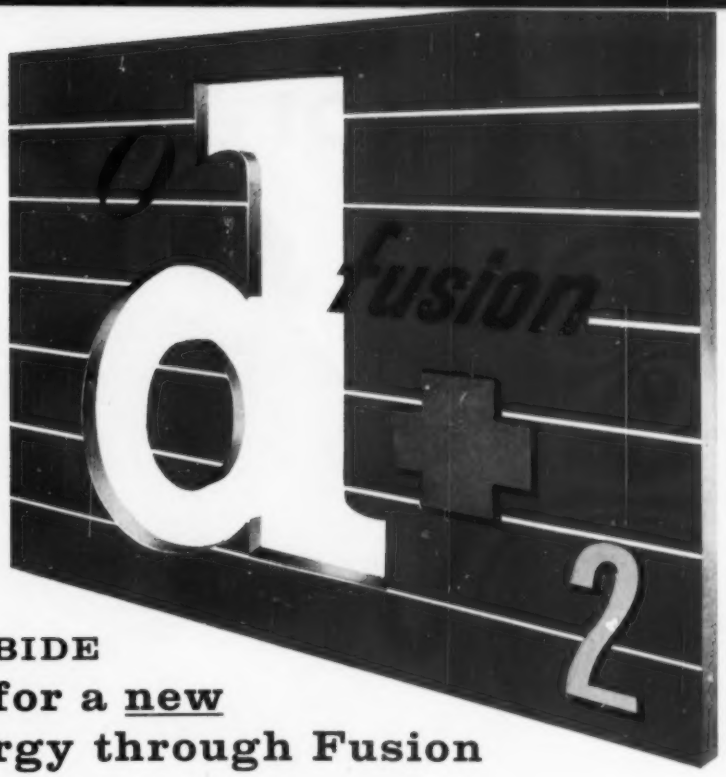
We know, for example, that there are just under 2,000 presidents and managing directors among the readers. We know that there are 6,160 general managers, and that 476 of them are in the chemical industry. There are 3,816 owners and partners; 1,000 of them in wholesaling and foreign trade, 177 busy with machinery manufacture. Food processing executives? We have 1,818, including 32 sales managers. And, for the record, we see that INTERNATIONAL MANAGEMENT has on its rolls one Latin American dentist (whose anteroom is doubtless a haven for executives with toothache).

These cards are more than unrelated bits and pieces. Tens of thousands of them add up to pattern, outlining to us the community of businessmen which we are trying to serve. The cards are not dull and lifeless things. We see names we know—personally, by letter, or by reputation. We noted the other day the name of a distinguished Lebanese business leader and hoped that his interests were safe. Or the card of a Swiss gentleman who writes regularly for information and sends an attractive calendar at Christmas. Or that of an Argentine, who visited us recently in New York. We only wish that we could maintain more personal contact with all of the subscribers.

Travel is the best way to build those contacts. As you read this page, we will be calling on a few of the thousands of Western European subscribers. For over two months we will talk with businessmen, seeking their views on management methods and economic trends. The results of this travel will be put to work here, and throughout McGraw-Hill, to produce a more useful publication.

In you are a subscriber in Europe, the chances are perhaps one in 150 that the Editor will call. Indeed, that gentleman who just stepped in to the outer office . . .

Paul R. Miller, jr



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A design engineer comes away from a visit to Russian laboratories and factories with a new appraisal of the products and processes of Soviet industry.

An Engineer Goes to Moscow

JUST HOW FAST is the Russian industrial machine moving? The question has been asked with increasing urgency since Sputnik soared into the skies a year ago. But the answers have often been confused—sometimes tinted by a lover's awe, or distorted by an enemy's fear and disbelief.

Today is no time for confusion. The Soviet Union's industrial stature, and its military capability, loom ever larger on the world scene. And in Premier Khrushchev's call for more economic "competition" is the promise that Russia will expand its efforts to play a bigger part in world commerce. There will be more Soviet "trade and aid," more participation in economic development, more exportation of products and technology.

It is easy to overestimate the growth and technology of the U. S. S. R. There is terrific waste and backwardness, shoddy workmanship and breakdowns. The nation's resources of manpower and materials are severely strained. Yet for all its troubles, the U. S. S. R. is making giant strides, and annually chalking up industrial production increases on the order of 7% to 10%. Its heavy industries can be important competitors.

Little wonder that businessmen, scientists, and engineers are now becoming inveterate tourists in the Soviet Union. One recent visitor was the veteran engineer-editor of McGraw-Hill's *Product Engineering*, Elmer J. Tangerman, who went to Moscow to get a first-hand report for his readers, the men who design products and machines.

His report is that of a technically-minded man talking to other technically-minded men. He devotes little space to politics, morals, or broad economic theory, a lot of time to "nuts and bolts." Highlights of his report, which was published as an entire issue of *Product Engineering*, appear below.

I. Contrasts

Like many who preceded him, the Editor of *Product Engineering* found the Soviet Union a land of contrast. His Moscow hotel had beautiful marble pillars in its dining room and crystal chandeliers and statuary on every floor; but the toilet in his hotel bathroom ran continuously, the tub leaked, the tile wall was patched with ordinary cement, and the washbasin was set at an angle and had no plug.

Russia has a boring mill that can turn a piece 10 to 15 meters in diameter, yet the nation is short of trucks, typewriters, and business machines. Modern equipment paves a main highway with macadam, while a few streets away women lay cobblestones one by one. The Soviet Academy of Sciences boasts the world's largest particle accelerator, but clerks often keep longhand records, use an abacus rather than adding machines. There are jet engines of titanic strength, but factories have almost total disregard for safety facilities.

Similar paradoxes exist throughout Soviet life, obsolete devices competing with the newest tools. The answer is that practically everything is in short supply in Russia. Though industrial output has increased more than 30 times in the last 40 years, the unsatisfied needs of both the home and the factory are tremendous.

But where modern equipment is vital—as in rocketry—or has propaganda value—as in the luxurious appointments of the Moscow Metro—it has been made available.

Despite the shortages, despite obsolete equipment where it will "make do," the Soviets move ahead with great speed. From the point of view of an engineer-designer, they have done so with bold practicality and straightforward thinking: Copy anything that is available, skip all steps that have already been made, invent and originate only where it is necessary.

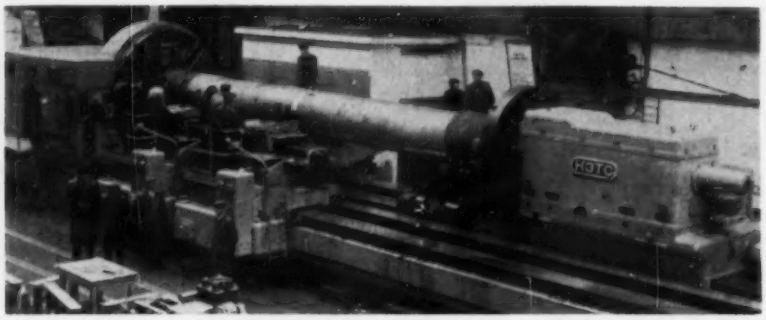
Leaping over normal development steps is natural in a society that leaped over the Industrial Revolution, going directly from feudalism to the present day. In aircraft, for example, the U. S. S. R. has jumped from the two-engine transport to the jet, skipping the four-engine type as economical but obsolescent. In machine tools, current designs for original types have standard table heights and feeds, so the same machine can be used singly or made a part of an automated transfer line.

With no patent system or competitive enterprise, Soviet engineers have no qualms about copying any product or system that will serve their purposes. To them this merely shortens development time of what they need, and allows them

ПРОИЗВОДСТВО СОВЕТСКОГО СОЮЗА

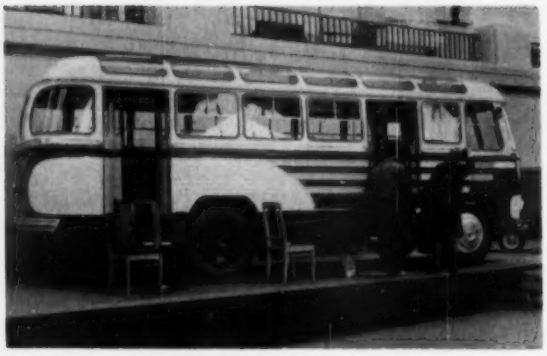
(MADE IN RUSSIA)

Here are a few of the cor
some borrowed, some new-



LARGEST LATHE is this 4 x 15-meters machine made by a factory in the Ukraine.

THE VYATKA, not unlike Weste

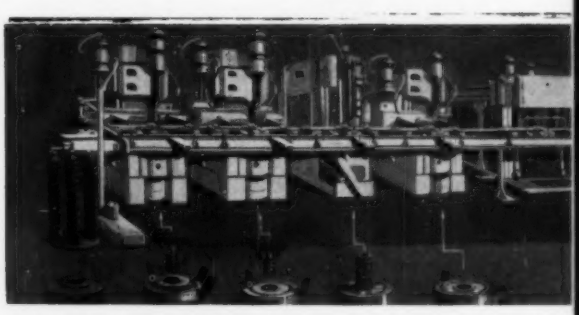


CITY BUS has engine beside the driver, air vents on roof.

KEROSENE LAMP
generates electricity
for radios on the farm.

SCREEN f

LIFT TRUCK is similar to American models.

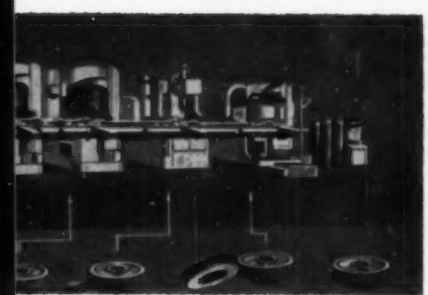


GEAR LINE (starting left) makes parts 80 to 250 mm. in dia. I

mer and industrial products —
w coming out of Soviet factories.

torcycles, burns 4.5 liters/100 Km.

jection TV drops into wood cabinet.



xibility, machines have same table height.

to concentrate their energy and limited resources in fields not fully explored by others.

Such a mode of procedure shows up in endless contrasts in consumer and industrial products. On one hand are scores of appliances, lift trucks, certain machine tools that are obvious copies of European or American originals. Alongside these are various creations designed to meet Russia's special needs—trucks and tractors adapted to Russia's size and climate, a kerosene lamp-generator to give isolated homes power to run radios.

II. Design

It is helpful for a visitor to think of the U.S.S.R. as a great business corporation (with the added features of police power and political ambition). Its top structure is like that of a corporation: It rewards "employees" similarly, it faces comparable problems of decentralization, modernization, education, selection, advancement. Its competitive situation, its slowness in one instance and speed in another, its blind spots and over-management, its red tape, its ability to concentrate in a given direction—all these are similar to corporate operations.

No understanding of Soviet industrial and technical growth is possible without looking at its design and research institutes—in effect, the corporate research divisions. There are design institutes for each industrial field—machine tools, coal-mining, machinery, steel projects, and so on. Originally these were design adjuncts of appropriate ministries; with the recent economic decentralization set in motion by Mr. Khrushchev, the ministries have disappeared, but the institutes remain.

The *Product Engineering* Editor had the opportunity of spending much time at one of the best institutes—known as ENIMS and charged with designing the nation's machine tools. ENIMS employs 1,000 people, and supervises the design work of 8,000 men and women involved in machine-tool design in the U.S.S.R. It is a crucial undertaking, because machine tools must be made first and well if other products are to be made at all.

ENIMS consists of four divisions, engaged in the following activities: 1) testing and approving all general designs for machine tools, as well as all components produced by other institutes and suggested for machine-tool use; 2) scientific studies of the wear, rigidity, vibration, plastic deformation of gears, and similar problems; 3) development of new production techniques; and 4) a special experimental plant.

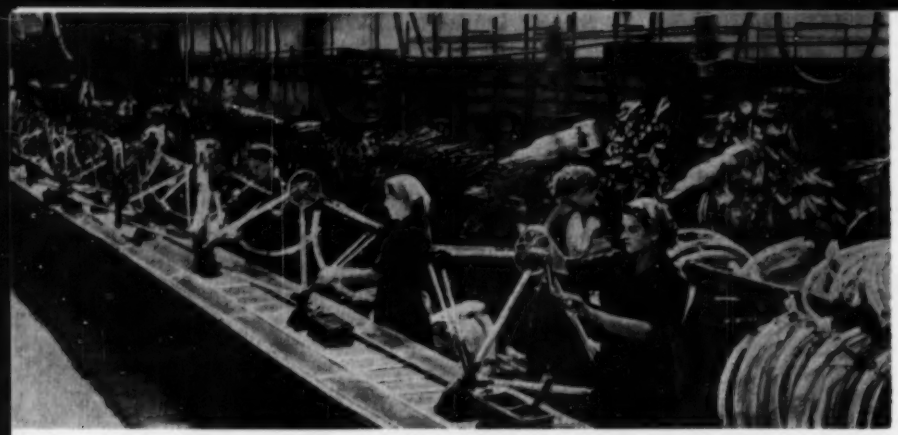
At the experimental plant, new machine-tool prototypes are made, models tried out, tested against available foreign equipment, designs or drawings corrected or approved. This work takes up about 50% of the plant's time; the rest is used in building balancing machines and gear-cutting machinery not made in regular factories.

ENIMS has been the major factor in the development of automatic machine tools in the U. S. S. R. It designed and built the automated bearing production line publicized last year (IMD, Mar. 1957, p46); and the automatic piston plant a few years before. It is now emphasizing flexibility in automation, and it recently produced a gear line and a shaft line embodying this characteristic.

Design institutes like ENIMS are, in turn, backed up by the most respected of all Soviet institutions —the Academy of Sciences. The Academy's 150 members and 350 corresponding members are the nation's top scientists. Each works in his own field, with the support of an extensive web of laboratories, expeditions and special projects employing over 35,000 people.

The Academy has eight main divisions, covering every field from physicial and mathematical sciences (the largest division) to literature and languages. The technical-science division, one of the smallest, includes machine building, mechanics, metallurgy, nucleonics, power, electronics and radiology.

The Academy has a tremendous impact on Soviet technology. Its members have been major factors in development of the Sputniks. It helped the U.S.S.R. produce the jet airliner, early-warning radar, and many more. But the work is spotty: Western observers suggest that it is high in mathematics, physics, and geophysics, low in chemistry, biology, astronomy. A crash program has been ordered, for example, in plastics by Khrushchev; the first



BICYCLE line copies U. S. techniques, produces about two units a minute.

plastic auto body, just announced, is a copy of the U.S.A.'s Ford "Fairlane".

III. Products and Processes

This combination of direction from the scientific top, experimentation at the design institutes, and practical development in the field produces a vast array of new products and techniques. You see the evidence in the 1958 U.S.S.R. Industrial Exhibition.

It is an all-industry show of something like 40,000 exhibits. Included are hundreds of models and mock-ups, many automated processes, thousands of machines, tools, instruments. A few of the most novel products and processes are described here.

In Mining—A high-frequency communications system allows a dispatcher to keep in touch with 15 shovel or locomotive operators in a sub-surface or open-pit mine. Operators may have either tube or transistor units. There are remote control locomotives as well.

Air conditioning of Soviet mines is progressing. One new unit reduces the temperature in a mine 550-meter deep by 5C; another has been installed in a coal mine at 890 meters.

Radioisotopes are used to control dust of non-ferrous ore, for better treatment of ore and improved worker conditions. Ore moves by belt past an isotope detector. A signal activates sprayheads along the ore-carrying belt, and the sprayheads are timed to wet down only the particular ore requiring it.

Metal Smelting and Forming—A blast furnace with a capacity of 1513 cubic meters, larger than any now in use, is being built for Siberia. It will be fully automated, requiring only 15 people, and it will produce a million tons of pig iron a year. In design is another blast furnace of 2286 cubic meters, with an annual output of 1.8-million tons.

Already in operation are three 500-ton open hearths using oxygen and featuring high-resistance refractories and evaporation cooling of metal parts. Hot water rather than cold water is recirculated through cooling passages. Water consumption is reduced to 1/60.

The Steel Project Institute has designed a four-line continuous casting setup. One ladle supplies four vertical lines, which cast bars 185 by 185 mm to 300 by 300 mm. Slab length is 4 to 6 meters.

Construction — The Russians have found a versatile building material in gas concrete, perhaps copying methods developed by the Swedes (IMD, Dec. 1957, p52). Sand, cement and a small fraction of aluminum dust are poured into molds. As the aluminum reacts with alkali, hydrogen forms and the mixture rises like batter. Molded parts are steam-treated in an autoclave to harden them.

A wide variety of house parts are made of this gas concrete, at a cost of less than half that of brick. The material is a better insulator than brick, so walls can be thinner. The plant for producing the material is portable, and can be moved from one building site to another.

Television—A highly portable TV camera outfit has been developed for reporters. It is a small knapsack containing a synchro-generator, video-amplifier, deflection circuits, and a transmitter. The camera weighs 2.5 kilograms, has a range of 500 meters, and an electronic view-finder for picture-quality control. Also there is an industrial television camera for dimly lighted places. It has a high-sensitivity transmitting tube. A variant can be used for underwater studies.

IV. Giant Auto Plant

A good gage of Russian industrial growth comes from a visit to one of its largest factories, the Likhachjov Automobile Works. Though known as an automobile works, the Likhachjov's main output is trucks and buses. It also produces a luxury limousine, bicycles, and refrigerators.

Some 60 shops make up the huge plant, which employs over 50,000 men and women. The plant produces practically all components that it uses. It has forging, casting, machining, tool, assembly, and test shops, as well as a complete design department.

Likhachjov generally follows U.S. principles in design and manufacture as "the most modern and most suited to our problems," according to a guide. Engineers are frank about this; they see no reason for doing what other people have already done.

Special machines constantly are under development at Likhachjov. Current ones include hopper-feeding devices, an automatic welder for driving axles and other propeller shafts, milling and hobbing cutters with blade-section inserts.

Actual construction in the plant is done in a 20-year-old tool shop employing 2,000 people in two shifts. The most skilled men at Likhachjov work here, including a number who are paid 2000 rubles a month, as against the Moscow minimum wage of 375 a month.

The most expensive product made at the works is the 32-passenger inter-city bus known as the ZIL-127. It has a 6-cylinder, 200-hp diesel engine mounted at the rear, mechanical transmission, air brakes, and an all-metal body of the suspension type. Windows are of safety glass, seats of the airplane type, walls insulated against sound and heat. The driver sits in an entirely separate compartment.

The staple product is the truck. A typical two-axle model has a 33 kg., 100-hp gasoline engine with special high-efficiency cooling and heating systems to take care of hot summer and frigid winter weather. (*Product Engineering, July* 14) ●

Mexico Grows ➡

Growth, set against a background of stability, makes Mexico a favorite of world bankers and businessmen. The nation has learned how to drive . . .

Down the Middle of the Road

MEXICO, a British observer noted recently, is in a mood of "dynamic stability." The nation offers the business opportunities that go with dynamic growth; and that growth is taking place in what is perhaps the most stable setting in Latin America.

This month, the government of President Ruiz Cortines is beginning to wind up its affairs prior to the inauguration December 1 of Adolfo Lopez Mateos (cover picture), elected by a large majority in July. Mexican and foreign observers alike expect the new president to carry on the "middle-of-the-road" policies of his predecessor.

That would mean a continuing effort to steer Mexico on a course of balanced expansion—balanced as between industry and agriculture; balanced as between government and private enterprise, foreign and domestic capital.

These policies have helped make Mexico the envy of many less-developed nations, and a favorite of the international bankers and businessmen. The nation has grown dramatically within a pattern of financial discipline and good management. It has kept inflation within bounds. Its currency is freely convertible. And since the peso was devalued in 1954 (some economists still wonder if the devaluation was necessary), the nation has maintained its monetary reserves at a comfortable level.

And Mexico has found a political formula that works. It seems both stable and close to the democratic pattern, even though it is dominated by a single political party. The Partido Revolucionaria Institucional consolidated its control of government over 20 years ago, when the country was completing the violent phase of its economic and political revolution. Today, PRI appears flexible enough to embrace — and reconcile — the views of almost every important element in Mexican life.

Lopez Mateos fits nicely into this tradition. Forty-eight years old and energetic, he is the first president-elect in memory who is liked by both management and labor. As Labor Secretary under Ruiz Cortines, he played an important role in settling over 13,000 disputes. His knack for mediation may be his greatest asset.

For Mexico is growing fast. Population, now over 32-million, is expanding at 3% yearly, the second highest rate in the world. Gross national product has grown by 7% yearly during the past four years; agricultural output has increased by almost 40% during that period and industrial production by over 40%. Imports (79% of them capital goods) rose to a new high of $1,115-million last year. Despite devaluation, an exploding population, and price increases, the statistics tell of real growth and prosperity.

This fact has not been lost on foreign businessmen—North Americans, Europeans, Japanese. In addition to the natural attractions of a fast-growing market, and a skilled and still inexpensive labor force, Mexico offers selected investors tax exemptions, tariff protection, and low duties on capital goods imports. All this has made Mexico the second-ranking Latin American host country for U. S. manufacturing investment (Brazil is first). Last year, Yankee investors put around $100-million to work in Mexico.

Industrial growth, plus a well-diversified expansion on the farm, may have helped to insulate Mexico from the recession in the U. S. A. Mexico has become more self-sufficient, more resilient in the face of adverse business trends abroad. Indeed, the nation has absorbed—with little damage so far—the world-wide price decline of coffee, cotton, sugar, metals.

Not that Mexico is completely immune. In April, the government raised tariffs on a wide range of goods, and reduced taxes on important exports to counteract falling export revenues and rising imports, a situation which has caused a sizeable trade deficit.

Higher tariffs will probably mean higher prices. And that focuses attention on one of Lopez Mateos' prime problems: How to contain inflation in such a fast-growing economy. Mexico has managed fairly well in the past, but now inflationary pressures may be building up.

Certainly the new president will have a chance to test his reputation as a labor diplomat. Mexican workers seem restless with the government's policy of "belt-tightening" and wage discipline. They seem prepared to make a strong bid for a bigger share in the nation's prosperity.

Petroleum is a problem too. Petroleos Mexicanos, the state oil monopoly, lacks the capital to meet soaring demand—partly because of extremely low prices for petroleum products, partly because oil nationalism discourages foreign assistance. There are rumors that prices will be allowed to rise

and that Lopez Mateos may put a new man at the head of Petroleos Mexicanos.

And there is Mexico's old and ailing mining industry. Today, only the booming new sulfur industry is making much money. Major modernization and expansion, miners say, will not be forthcoming until the government revamps mining taxes. There is no assurance that Lopez Mateos will do it.

But the new president is likely to put more money into expanded tourism, the nation's biggest industry and dollar earner. Last year, tourism brought in $592-million from over half a million tourists. In the future, Mexican officials want to see twice that number.

Lopez Mateos would also like to see $1,000-million worth of foreign capital come to Mexico in the next six years. To be sure, Mexicans are somewhat sensitive about foreign capital, and Lopez Mateos can be counted on to keep "Mexico for the Mexicans." But like his predecessors, he believes a balance must be struck between nationalism and the country's need for outside capital. Mexicans are particularly anxious to increase the flow of funds from Europe and elsewhere outside the U. S. A.

They would also like to reduce their trade dependence on the U. S. A. The day when Mexico will have its own export industries and merchant marine is not far off, and Mexico hopes to expand its commerce with Latin American neighbors. On the agenda now is a larger exchange with Central America, and Mexicans have even outlined a "Point Four" program for assisting in that area's development. In the more distant future, Mexico sees a major role for its exports in a Latin American "common market."

Meanwhile, Lopez Mateos has much to do at home. He talks of regional planning, and hopes to double the nation's power and agricultural output by harnessing the large river system in southeast Mexico. He has made clear that he will extend his predecessors' program of public works, and mechanization of farming and industry. And as a former teacher, he can be counted on to allocate important funds to education, particularly the training of technicians.●

"Paternalism"—It is Tempting but Risky

A British industrialist argues for "contracting out" of social responsibility. When they can, managers should stick to management.

PATERNALISM is a dirty word to some people. To many others, it is at least suspect, evoking the image of overweening employers or governments meddling in the lives of citizens in a free community. For this reason, perhaps, you do not hear it often discussed by managers.

Yet paternalism is a real problem in a day when big business is getting bigger everywhere, and when less-developed lands rush to establish an industrial base.

How real can be seen in a thoughtful discussion by Sir Jock Campbell, writing in the current issue of *Optima*, a quarterly published by the Anglo-American Corp. of South Africa. Campbell is a British industrialist with long experience in establishing industry in undeveloped territories. In *Optima*, he takes a hard look at the theory and practice of paternalism.

Paternalism, says Sir Jock, is the projection of a word which—when it is at home—has the most intimate personal significance. But when it invades the context of human organization outside the family, its significance can become hopelessly complicated.

In industry it is a tempting, but always risky, proposition to widen the "family circle." But Sir Jock believes that a modern industrial organization cannot be — and should not be—treated as a family. It is, on the contrary, an economic grouping of men. The logic of this economic grouping is vitally important in the consideration of industrial paternalism.

What is unquestionably necessary in an industrial enterprise is continuity and prosperity. Management must have the responsibility and the authority to carry out policies to this end in the interests of shareholders, employees, and the community. To do this, management must assume a degree of control over people.

If, however, management willfully attempts to exploit this control by extending the writ of its authority beyond its economic responsibility, then it invades the private life of the worker. This spells paternalism in a bad sense.

To be sure, management's right to manage has to be interpreted in an infinite variety of people and places. What is one management's meat turns out to be another's paternalism.

Consider the United Kingdom, the oldest industrial community. Industrial paternalism is hardly a controversial issue there; the state has, by common consent, adopted a paternalistic role. But while controversy may have died down, problems still exist. Look at the well-intentioned playing fields provided by many companies for employees. Some are seldom used. What support they must have is probably subtracted from the local community club which may well need that support.

Apart from the way the community is affected, Sir Jock asks if it is a good thing to encourage employees to stay and play within the working group rather than contribute to the community at large? Is subsidized recreation paternalism? Is it paternalism to offer employees canteen food privileges, medical facilities, pensions, housing loans?

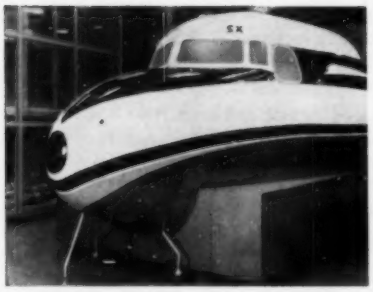
It can be argued that some such schemes go too far, diminishing the self-reliance of the individual. On the other hand, management can argue that they increase efficiency, attract better workers.

Whatever the answer may be, the ground of the argument is far, far removed from jungle, desert, and mountains.

Consider the development of industry in sites far from an established community. For example: Aluminum Co. of Canada's Kitimat smelter, the Copperbelt of N. Rhodesia, Tata Iron & Steel

Co.'s Jamshedpur in India. In sembling the once-powerful com- **may be, a reaction is inevitable.**

Good Reasons for Flying *Royal*



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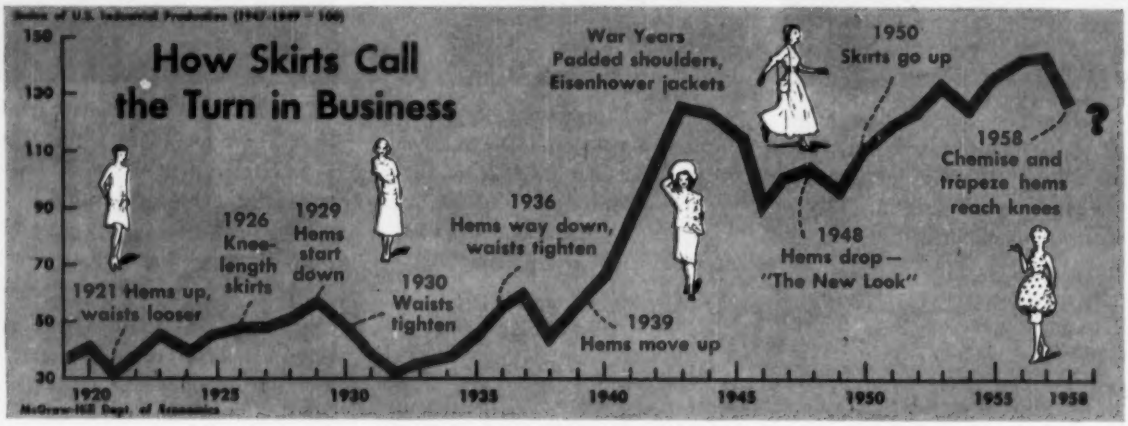
dilemma of reducing its social re-

Co.'s Jamshedpur in India. In each case, private enterprise created new communities, and was committed to paternalism on a vast scale. There was no alternative. In each case the community was the productive unit, and the productive unit the community.

A company can begin with determined enlightenment, as did the aluminum company several years ago, to prevent Kitimat from resembling the once-powerful company regimes familiar in Canada and elsewhere. In the Copperbelt, the companies have provided far better amenities than those available in public African townships. But gradually—and here the 50-year experience of Jamshedpur provides perspective—the town grows with the plant and the company finds itself doing everything.

However enlightened a company may be, a reaction is inevitable. In Jamshedpur the employee wants to participate in the making of his city—even if he makes a mess of it—and to forget he is an employee. In Kitimat, as one employee put it, "the company is the bridegroom at every wedding and the corpse at every funeral." Management's good intentions have paved the way into a difficult position. And a company faces the



Economic Consequences of Hemlines

THAT STUDIOUS GENTLEMAN seen sneaking through the salons of Balenciaga and Balmain may not have been a fashion buyer. He may have been an economist, whose zeal to predict the business cycle has led him to the scholarly appraisal of milady's legs.

Economic science has come a long way in isolating various indicators of business activity. But only recently has that learned craft paid much attention to women's dresses, and specifically to the position of hemlines in relation to knees. So, the McGraw-Hill Department of Economics recently ventured a brief look at legs.

Its report is optimistic. As seen from the world of *haute couture*, the future is bright.

Look at hemlines. The chart above provides a rough guide: A change in hemlines is generally followed by a change in business activity. Dropping hemlines forecast falling business. Rising hemlines promise better business.

The current fashion for the "chemise" and misplaced waist harks back to the 1920s, when rising hemlines carried much of the world up out of the postwar depression into the Big Boom. Thereafter, there was a remarkable correlation between skirts and business activity.

Unfortunately, hemline economics utterly failed to signal the 1958 U. S. recession, something the McGraw-Hill experts are not talking about. But they note that once again hemlines are rising. Undeterred, they predict that skirts will move up around the knees, and that business will improve. (The summer showings in Paris were indecisive; many hems moved up, others stayed the same. Only the House of Dior, with almost two more inches of skirt, predicts more recession.)

There are, to be sure, other schools of thought. One declares that fashion changes are more a function of what is happening in business rather than a leading indicator. An American student has found a close correlation between per capita income and the lady's silhouette. A British observer notes that in periods of social stability, expansion, and "good" money, women wear elaborate clothes with rich materials. But in time of crisis and inflation they wear flimsy, skimpy garments, cut off their hair and wear their waists in the wrong places.

No matter. The ups and downs of hemlines provide livelihood for the dressmakers and a constant (if horrified) fascination for men. The showings in America recently revealed that almost without exception the U. S. fashion industry has capitulated to the loose-fitting chemise.

Many men do not like it—even if it is a harbinger of better times. But there are exceptions. Billy Graham, the world-renowned religious evangelist, says he likes the chemise because "it has taken the sex out of dress." And in Russia, a trade union newspaper applauded the chemise because it can be bought ready-made from the factory "without worrying about its not fitting well." ●

dilemma of reducing its social responsibilities without seeming to shirk them.

This attitude, says Campbell, regards paternalism as a transitional process. In practice, this means that management must dare to share its social problems at every opportunity by consultation with community and government, and by widening at every opportunity the freedom of the individual to choose for himself.

Sir Jock speaks of his own experience with paternalism—in the sugar industry of British Guiana, where slavery, then indenture, and thoroughly bad (and highly paternalistic) conditions prevailed for centuries. Finally, after World War II the industry felt able to spend money and plan ahead.

Were we, Sir Jock asks, to press for arrangements where industry would be in a position to house its 25,000 workers properly, to look after their health properly, and to provide social amenities; were we, in fact, to try to perpetuate paternalism? Or were we to try to contract out of our responsibilities to the community, retaining only the responsibilities of an enlightened employer?

The industry decided on contracting out. Housing was, at that time, the critical factor. So the industry began a scheme whereby sugar estates made land available, put in wells, then offered plots at small rents to families. The estates gave their workers the materials of their existing habitations (such as they were) and loaned them some money.

Gradually the scheme got going; now some 6,000 families are housed in homes they built themselves and own, and the estates are within sight of their aim to provide housing for only a very few key employees. The new housing sites are on the point of being absorbed by government into local government areas and of becoming villages in their own right.

These villages are exciting because they consist of the homes of individuals. Many critics may say they look shoddy, amateurish, absurd. But the point is that they do reflect the lives and values of the people living in them—and not the values of management or management's expert advisors. ●

Japanese "Shame Show"

A BOLD CAMPAIGN for original design is one of the most important aspects of Japan's bid for increased export trade (IMD—July, p 9).

And the most dramatic weapon in the campaign is a traveling exhibit of 100 Japanese products, recently organized by the Ministry of International Trade & Industry (MITI). The products are displayed alongside foreign originals from which they were copied directly (picture above). Often originals and copies are so nearly identical that parts are interchangeable.

MITI hopes this "show of shame" (organized in the face of domestic opposition and foreign apathy) will goad industrialists into encouraging original design. It also hopes to drive home some truths about the nature of copyright.

Behind Japan's tendency to design piracy lie many different causes. Not only is a sense of ownership new in Japan, but full protection under Japanese patent law poses difficulties for the foreigner: The application has to cover the product's internal and external engineering design, its function, all its industrial design features. After the application is filed, the law requires a period of deliberation rather than automatic approval.

As for the economics of piracy, Japanese firms often operate at margins too slender to leave money for original research. Moreover, some foreign importers have actually encouraged Japanese suppliers to make "cheap copies."

Happily, however, there are forces today which are turning Japan from imitation toward more original work. Already postwar Japan has scored some startling triumphs through good indigenous design, especially in cameras and dinnerware. And not least important is the sense of shame building up in Japan's young designers. ●

India's top executives of tomorrow attend seminars . . .

. . . and visit industries in Bombay to fin

Management Movement Gains

"SUCCESSFUL INDUSTRIALIZATION depends as much on competent managers at all levels of an enterprise as it does on capital resources." This was the comment of Professor Charles A. Myers of the U. S. A.'s Massachusetts Institute of Technology after a recent trip to India.

Businessmen can be pardoned if they think that this is a pretty strong statement—especially in view of India's present difficulties marshalling capital resources for its industrial program. But they must agree that the Professor's point is well taken.

Nowhere is the need greater than in India. And it is apparent that India is determined to meet the need.

The development of better management techniques should pay off handsomely. One United Nations technical-assistance expert reports that India's industrial output could be increased 20% to 50% simply through the balancing of machines and facilities, the adoption of specifications and standards, and the optimum use of raw materials.

But of equal importance is the gradual awakening of entrepreneurs to the need of converting their investments into permanent, "nation-building" organizations.

A landmark in the Indian management movement was the formation of the National Management Association in 1956, bringing together local associations in Bombay, New Delhi, and Bangalore—and now 19 chapters strong. This organization has sent its first delegation to the International Management Congress in Paris, and is now a full-fledged member of the international management group.

As yet, however, the All-India association does not have the resources to carry on a sustained educational program. But several local groups do. In the opinion of some observers, the Bombay Management Association could well serve as a model for other management groups in India—and undoubtedly for many outside India as well.

I. Bombay Leads the Way

Bombay is the commercial capital of India, of course, and there are many well-established industries. The BMA now has 277 corporate members, 33 "institutional" (small-scale industries) members, 28 associate members and a few students.

On an annual budget of about $5,500, the association carries on an active year-round program of meetings, seminars, and study courses.

N. DANDEKAR, chairman of the Bombay Management Assn., is a frequent lecturer on executive development. Once a civil servant he now heads an important cement business.

In a frank assessment of the Bombay group, a BMA enthusiast describes a situation that is common around the world:

"With some exceptions, the top business 'brass' are complacent. Association meetings are usually attended by the younger executives between the ages of 35 and 45. It is a pity, because medium-ranking executives have neither the authority nor the influence to carry out ideas they pick up in our discussion groups. But in 10 years they will become top executives themselves. We put our faith in these men."

It is not an easy matter anywhere to convince entrepreneurs and financiers that sound and systematic management knowledge is not only desirable, but essential. India's problem is particularly acute because individual financial wizards control so much of the business world. Laments a BMA leader: "If management could be persuaded to introduce effective supervisory training programs and performance appraisal systems, they would soon boast of labor harmony."

Such an ideal state is certainly not around the corner in India, or elsewhere, for that matter. But as a mark of progress, another observer comments: "Gone is the old complacency. Even the speculators are becoming careful about giving their sons the education needed to carry on the family business."

That the BMA is influential is shown by the testimony of men

ut how other plants are managed.

in India

who have taken away ideas. Listen to J. V. Patel, the 50-year-old head of a company with three plants:

"I used to control all three plants myself," Patel says. "Today each one is in charge of a general manager and the largest has two senior executives in addition. I come into the picture at the policy-making level or when the general managers want my advice."

The chief executive of the Mukund Iron & Steel Works became interested in a merit-rating system at a BMA conference—and the system is now being tried in the Mukund works. Mukund's business manager explains the company's willingness to experiment simply: "All of our top executives are young," he says.

Behind the influence of the BMA is N. Dandekar, chairman of the organization. Now in his late fifties, Dandekar was once a bright star in the old Indian Civil Service. Today he heads the country's biggest cement amalgamation.

Dandekar refuses to let the association get involved in India's often bitter debate over state versus private enterprise. Instead, he emphasizes the basic need for executive development. He is convinced that the biggest single factor in bad management—state or private—is the lack of delegation of powers and responsibilities within an enterprise.

The younger group in the BMA is exemplified by 38-year-old H. N. Nanjundiah, secretary of the executive committee. Trained at the U. S. A.'s Columbia University, Nanjundiah has won a place for himself in Bombay as a management consultant.

Leaders of BMA discussion groups are mostly BMA members who are specialists in the particular subject. A series of 19 seminars on executive training, for instance, has just been completed by F. A. Fazalbhoy, a 50-year-old businessman who has personally encouraged executive development in his own enterprises for 10 years. A recent seminar on industrial training was conducted by the employee relations manager at the Standard-Vacuum Oil Co.; a series on personnel management was conducted by an expert from Hindustan Lever.

Headquarters for BMA is a small room in an office building in Bombay's business district. There is a growing business library (520 books and numerous magazines on file) for the use of members. The association also publishes its own weekly newsletter. Most of the lectures and film showings, etc., are held in larger rooms either borrowed or hired for the occasion.

BMA's educational program is in three main categories:

Annual residential study courses: Spread over a week, each day is divided into morning lectures or study groups, afternoon general discussions, and a guest speaker in the evening. At lecture sessions, equal time is allotted to questions.

Study groups: Subjects of current interest are investigated, with the results made public.

One day conferences on special topics: The primary purpose is to exchange information and to help members clarify their thinking on a subject. One member comments, "They help create the will to make one's own decisions."

II. Other Voices

While the Bombay management group may represent the most dynamic of India's management associations, it is by no means the only force working to make management a recognized profession.

At present, however, the only high-level residential management training is the Administrative Staff College at Hyderabad. On its beautiful site at Bella Vista top executives and government administrators—sixty at a time—gather for three months of study. The purpose of the College is clearly stated in one of its booklets: "Every large enterprise calls for the constructive skill and techniques of leadership, policy making, and planning which are not simply gifts of nature. Training is necessary."

Patterned on Britain's Administrative Staff College, Hyderabad uses the "syndicate method" of training developed at the British school. After participating in several syndicate sessions, Professor Myers of MIT agreed that it does help develop skills and insights.

Myers follows with the comment: "The 'case method' may be equally useful, as are other methods, but it is a mistake to consider any one management training approach as the only road to success."

Management conferences are becoming increasingly popular in industry groups. Perhaps outstanding is the annual meeting of the Ahmedebad Textile Industry Research Association.

Its fourth conference last February was attended by nearly 600 management people. The discussions included sessions on wage systems, participative management theories, organization and control problems, and research studies made by the association's own Human Relations Division.

There is also a growing interest among corporations in staff training centers. Noteworthy are the centers operated by the Tata enterprizes and Burmah-Shell, and the leadership training program of Standard Vacuum. In Calcutta, a group of companies have organized a three-month Advanced Management Course. It is conducted on week-ends for middle management men over 30 years old with a minimum of five years experience.

Seven of India's universities and technical institutions now teach evening classes in business administration attended by junior executives. Some of these institutions are now beginning to collect case history material from Indian industry and top executives are being recruited as part-time lecturers.

There is also a training-within-industry program sponsored by the Ministry of Labor, and organized with the assistance of the International Labor Organization. Some 70 training officers from 55 industrial firms have qualified to conduct supervisory training programs. ●

The Manager of Company Stability

Personnel men agree on primary responsibilities, but disagree on how best to carry them out.

Digested from PERSONNEL, July/August, p36

PERSONNEL MEN perform an almost infinite variety of professional chores, from providing for plant security to advising the president on where to send his son to college.

After a recent survey of 8,000 personnel executives, the American Management Assn. grouped the activities into three main categories: 1) providing technical services to the operating organization, 2) advising line and top management, and 3) managing the personnel department itself.

I. Providing Technical Services

Technical services provided by personnel departments are shown in the listing below. And most of AMA's respondents agree that these services are essential activities that would be done by someone if the personnel department did not exist.

There are differing attitudes, however, as to how these services should be carried out.

One attitude is that performing technical services is, by definition, personnel management. As one respondent replied: "Labor relations and employment are the guts of personnel management." Many personnel managers who share this viewpoint conceive of themselves as staff "management consultants" who "sell" their services to operating managers.

Another viewpoint is that technical services should be self-liquidating. A typical expression of this attitude: "Our job is to initiate the programs, coordinate them, train the operating managers to use them, and then to wither away."

The third viewpoint is that providing personnel services is completely a line—rather than a staff—function. One personnel man suggests that personnel men should stop tiptoeing around the shop and take over the jobs they know best—writing job descriptions, negotiating contracts, training employees, etc. It should be noted, however, that this may be a "prosperity viewpoint"—operating people may welcome the idea of personnel specialists joining their staff when they are too busy to bother with such matters, but in slack periods, they are liable to take back the duties to keep themselves busy.

II. Advising Management

Perhaps the most important advice is the plain common sense that comes forth when the personnel manager commands the confidence and respect of top management. This "service" ranges all the way from working with local schools to sitting in on a conference on a new plant location.

The personnel manager likes best to be consulted for his experience and insights into human relations. He is often asked to interpret company rules on such matters as firing, transferring, etc., and to give technical advice on matters such as wage and salary administration. Many personnel men, in fact, tend to consider themselves the fount of management information within their companies.

Some of the practices in this area of advice-giving need a closer look. Often, for instance, the personnel department is presented with personality problems that operating managers are unable to handle. Many of these cases are situations beyond salvage that are referred to the personnel manager as a last resort before firing. One respondent expressed this cynical view of the practice: "They like to drag us in after the damage is done. It spreads the blame for what ultimately happens."

In some companies, the personnel department has taken on the role of advising management on what the workers or supervisors are thinking. Sometimes the personnel man becomes the "employees' advocate," a sort of uncertified bargaining middleman carrying a flag of truce—and thereby making sure that no real communication or rapport is achieved.

Some personnel departments act as the company's "social conscience," advocating business statesmanship and advising management on its responsibilities to the community. But personnel managers sometimes fail to resist the temptation to assume a perma-

What Personnel Managers Do

Labor Relations

1. Contract negotiations
2. Grievance handling
3. Preparation and presentation of arbitration cases
4. Research in labor and industrial relations

Education

1. Employee training
2. Supervisory training
3. Organization planning and management development
4. Communications programs

Wage & Salary Administration

1. Writing job descriptions
2. Job evaluation
3. Community wage and salary surveys
4. Incentive and profit sharing systems
5. Executive compensation

Employment

1. Recruiting
2. Psychological testing
3. Medical examinations
4. Interviewing candidates
5. Employee records management

Health & Welfare

1. Safety programs
2. Recreation programs
3. Cafeteria, parking lots, etc.
4. Plant security
5. Miscellaneous health and welfare activities

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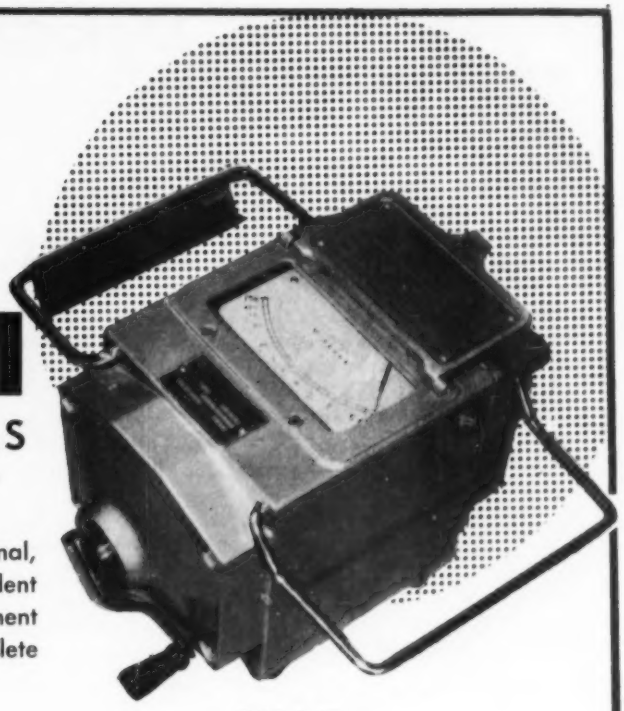

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nent monopoly over the "larger moral insights."

III. Managing His Department

The personnel manager, of course, has managerial duties fully as heavy as most line managers. He is concerned with the production and quality of work, organizing, planning, controlling, recruiting, and training within his own department.

The real test of a personnel manager seems to be his ability to get results through the people in his department—and not his knowledge of the latest gadgets of personnel techniques. And he tries to make sure that his own department is the best-run department in the company.

In other words, the personnel manager is a manager first, a personnel expert second. He should admit that any good manager could run his department.

IV. Higher Responsibilities

The basic function of the personnel man, according to George S. Odiorne of the U. S. A.'s General Mills personnel department, is to ensure a company's long-range stability and growth—not to contribute to profit as such.

Most companies do not have a general concept of orderly growth —they usually grow in a lopsided manner with one department or another falling behind. The personnel department can contribute a concept of growth that will encompass all departments — and take responsibility for providing the manpower.

The personnel department also has a direct responsibility for solving the problems that develop when an organization develops too rapidly—breakdown in communications, loss of rapport between managers and employees, the failure of procedures, the hardening of attitudes.

And it is clear from other surveys that chief executives expect personnel men to be continually aware of the profit factor in business operations, and expect them to develop a broad "top management" understanding of industry's problems and goals.

Conversely, management must appreciate that personnel men make a positive contribution. ●

Delegating for Growth

SACRIFICE is not often associated with a manager's job. But sacrifice he must—unless he gets satisfaction from watching other people make progress.

It is common for management men to rationalize their failure to upgrade subordinates. What if a younger man does the job better? Long experience may seem to lose value; a manager may feel threatened by the vitality and eagerness of younger men, and perhaps by a fresh technical approach. As a result, managers often magnify the inexperience and mistakes of subordinates.

Once a manager has reconciled his own emotional attitudes, however, there are many things he can do to create a better climate for his subordinates to grow. Here are eight steps toward delegating for growth:

● **Take a look at subordinates.** Remember that their performance could be worse, could be better. No one ever learns to work at full potential.

To delegate for growth, think in terms of what else a man can do, rather than what he has not done. If a man knows the best is expected of him, he will respond. He will continue to make mistakes, to be sure. But he should improve as a result of his mistakes.

● **Give him the growth factors he needs.** An "over-the-shoulders" manager tends to destroy initiative. A "let-alone" manager, on the other hand, may force a subordinate into a rut. And if a man is given little things to do, he will become a little man.

To give a man the growth factors he needs, let him know his job warrants guidance, evaluation, and recognition.

● **Measure the job for the man.** If a delegated job is to be suitable for the man, it must be difficult enough to challenge him but not too difficult to do. In doing his job, the man must feel he is improving himself personally—plus feeling that his job is well done.

● **Tell top management, too.** It is important to pass the word up to the next level of management. If the word doesn't go up, a subordinate will realize his efforts are not likely to pay off.

● **Tell the man where he stands.** When a man is given an assignment, he must understand his responsibility, and the job's priority, importance, and contribution to the production goal. There should be agreement between the manager and his superior as to how far this man can go on his own, where he is free to make decisions and act upon them, what points he must clear with his superior before going ahead, the resources he will have and the conditions under which he can use them.

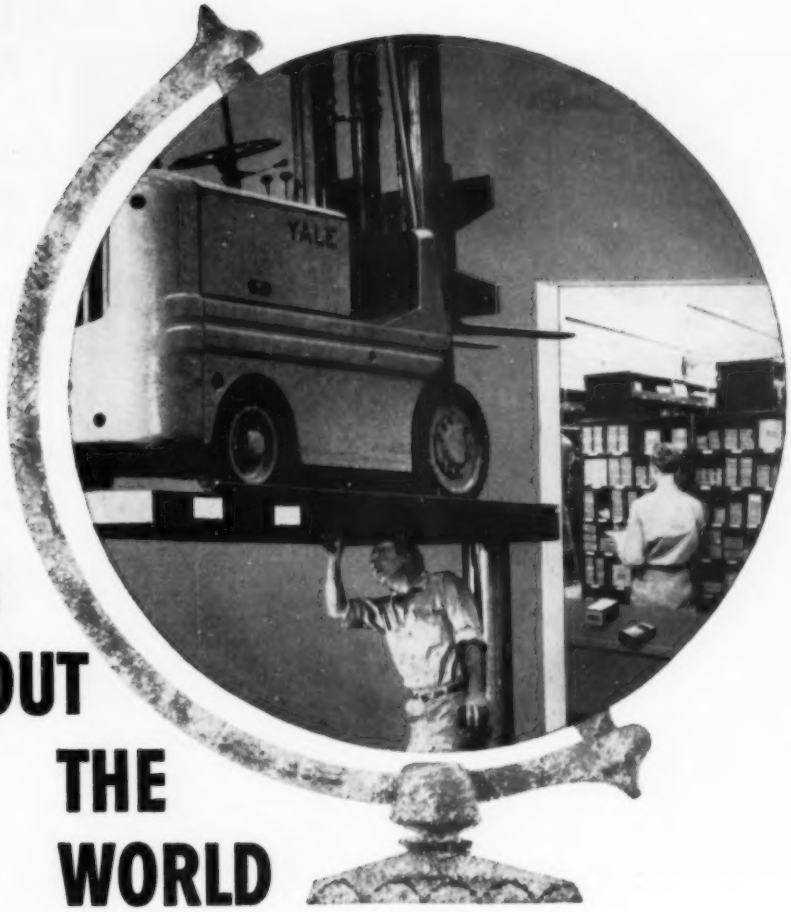
● **Make the job worth while.** A job must be challenging if it is to encourage growth. The man must consider it worth doing. The purpose of delegation is not just to get rid of dull routine. If more work is forced on a man and he is unwilling, odds are the result will be poor. And if the assignment lacks chances for him to learn, it tends to be routine.

● **Set standards high.** Set standards so high that the man has to stretch to the limit. For his own job satisfaction, anything less than his best is not good enough. Almost every man—unless he is mismanaged—wants to grow.

It is only as the man feels competent, and knows that the quality of his work is high, that he will look on high standards as his means of getting recognition.

● **Reward the man.** When he reaches a high level of job satisfaction and productivity—even though helped to get there—be sure his reward is big enough and well-timed. Nothing will "sour" a man quicker than the feeling that he has been "used."

After a man has done a job, both he and his manager will better understand the growth benefits of delegation. The next step is to talk over the results—how he did the job, what went right or wrong. Then the finished job becomes a stepping stone to greater achievement. (*Factory Management & Maintenance, July, p* 56)



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The Mood of Management...

. . . dictates changes in management strategy to overcome problems of slower growth, lower profit margins.

IF YOU KEEP AN EYE on management methods in the U. S. A., it is well to remember that they are determined as much by the mood of the times as by any sort of "textbook principles." And the mood is set by business problems.

Over the past decade, business problems have shifted. In the late 1940's, the focus was on boosting production to meet pent-up consumer demand. Three years ago, it was finding and developing executives to manage swollen and still growing corporations. As short a time as a year ago, it was finding money to finance more expansion. Over-all, the mood was growth—and a lot of things were overlooked.

Today, the mood is considerably less expansive. "Let us face it, the rules have changed," says an oil company executive. "Not just because of the current business dip. But the growth from now on is going to be a lot slower than over the past 10 years—and that means we have got to start changing practices now."

The overriding single problem in most American companies now is cutting the costs of doing business. The problem is expressed in different ways. A division manager of an automobile maker speaks of "reducing the number of people in his division." A metal working company calls it "proper allocation of funds." A chemical company president says that his costs are increasing faster than the value of his products.

Where are the increases in costs coming from? Everyone points to labor—not just organized unions, with their constant pressure for wage increases, but all employees.

A number of companies suggest their biggest headaches, in fact, lie in the managerial area. One vice president admits his company, for one, has been "stockpiling" people. "In a period of expansion, you have got to carry more people than you

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need to fill the ever-increasing number of new jobs. But we are now engaged in a major reorganization of duties and personnel in all departments."

Other companies are taking long looks at the scope and nature of staff services accumulated during hurried expansions.

In a number of individual industries, however, management seems to be at a loss as to what to do. A metals producer, for instance, says, "We can do nothing about wage levels or raw materials costs. Our only solution lies in getting a higher price. But that would mean another round of inflation which would raise our costs still higher."

In some industries, there seems to be too much competition. As one transportation executive put it: "There are too many cows grazing on one small patch."

But even where the total market is relatively inflexible, progress is reported. A steel company reports, "We had to spend money to save money. But as a result of tightening up internally, our break-even point is now running about 47% of productive capacity. Two years ago it was over 60%."

A lot of companies are getting results without too much overt action. Comments the president of a company that has gone through some sizable layoffs: "Everybody knows the pressure is on. The only trouble is that some people work harder to avoid the ax, others slack off more, figuring layoff is inevitable. Luckily, there are more that work harder."

Somewhat surprisingly, since lower sales have pinpointed the cost problem, few companies indicate any need to "revamp" their sales organization. Some, like one paper products company, are turning the savings produced at the production and staff levels over to marketing departments for bigger sales efforts and promotion budgets. In several cases, staff men have been detached to "go calling on customers."

But more and more companies, it seems, are becoming aware that the basic problem is not necessarily sales income. The president of a business machine manufacturer sums up this feeling: "Every year our sales volume goes up and our profit margin goes down. What we have got to do from now on is to make sure that whatever volume we have is profitable. Something has to stop right now." (*Business Week, July* 26, *p*35) ●

In Management

● **SUGGESTION SYSTEMS** may be fine for essentially mechanical operations, but they do not lend themselves to complex process operations such as chemical plants So argues the U.S.A.'s Dow Chemical Co. in explaining why the company does not have a plan.

Dow also claims that suggestion systems tend to tear down a spirit of teamwork, promote jealousy and bickering, and destroy initiative, since 75% of ideas are normally turned down. Furthermore, Dow says, administrative procedures are expensive and complex. (*Employee Relations Bulletin*)

● **STANDARDS ENGINEER** now has a full time job, agreed most of the delegates at this year's conference of the International Standards Organization in London. In smaller firms the job should rank high enough to "absorb the interest of the top man." One speaker told how a large oil company using 40,000 different types of valves had reduced the number by 75% through standardization. (*Business, July, p*27)

● **TALENT STUDIES:** An international center is suggested by Dr. Reinhold Schairer of West Germany's Deutsches Institut fuer Talentstudien (Koeln), writing in the journal of the European Productivity Agency. Such a center would act as a central information center for cooperating national groups. Dr. Schairer's own institute has a study group of 40 experts working on ways to discover and develop talented men and women in industrial firms.

In the U.S.A., several manufacturers are trying to solve this problem by keeping an "inventory sheet" on every employee.

For example, *Factory* reports that supervisors at the Wolverine Tube Division of Calumet & Hecla Inc. (Detroit) interview each employee on his employment anniversary—getting to know him better in the process—and update the informa-

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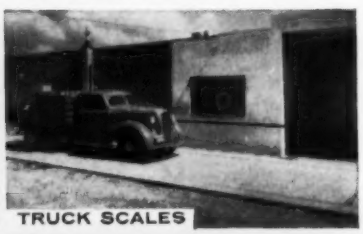
TRUCK SCALES

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tion sheet. The information covers training, experience, and background factors such as hobbies and community leadership activities.

The personnel department maintains a punch card for each employee, with ratings of "good" and "excellent" punched for eight skill areas: supervisor, group leader, technical, engineering (staff and operations), clerical, sales, and accounting. The cards are mechanically sorted to isolate candidates for promotion, transfer, training.

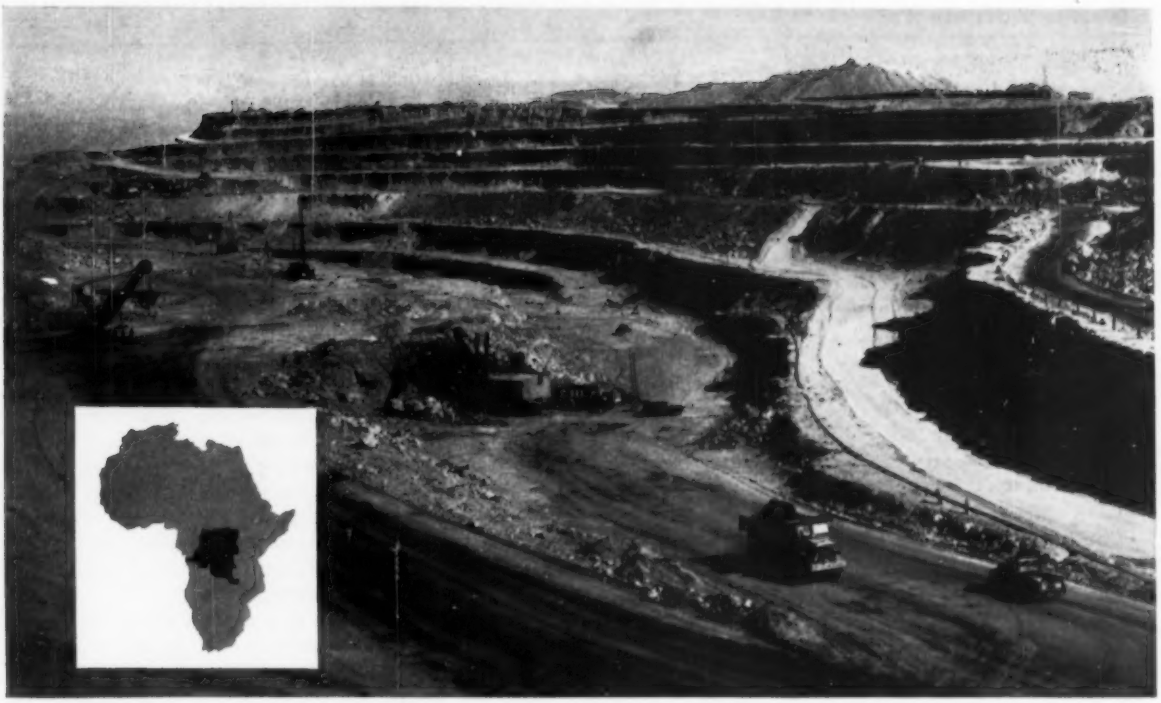
● **"COFFEE-BREAK" MEETINGS** between the production foremen and master mechanic have replaced shop orders and reports for equipment maintenance at the U.S.A.'s Rheem Manufacturing Co. The meeting is held each afternoon, with coffee "on the house." Then the master mechanic has plenty of time to work out assignments for his night crews. Routine preventive maintenance is carried on separately. (*Factory Management & Maintenance, July, p86*)

● **UNION CONTRACTS** at one North American company now carry a clause in their preamble that says: "Both the union and the company agree that their mutual success depends upon constantly giving the consumer better values in quality."

● **BETTER PUBLIC RELATIONS** for a Brazilian power company are the goal of a permanent exhibit in a new shopping center in Sao Paulo's residential area. Cia. Paulista de Forca e Luz installed an illuminated map of its electrical distribution system, photographs of plants and properties—and a receptionist to answer questions and hand out literature.

The shopping center, incidentally, contains an 800-car garage and underground area for loading and unloading merchandise.

● **RETIRED EXECUTIVES** in Toronto, Canada, have organized a Directors' Service that provides an experienced "board of directors" service to small firms for $75 a month. There are 32 executives in the consulting group, and they offer advice on financing, expansion and contraction, merchandising, public relations, competition.



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Truck haulage, which was introduced in 1947, has provided the maximum flexibility that is required at Musonoi because of the varying formations and 30 degree pitch of the ore. Union Miniere standardized on 22-ton Rear-Dump Euclids from the beginning and at present is operating a fleet of 94 "Eucs" to move most of the 1½ million m³ production per month. Waste material that must be hauled long distances is handled by rail.

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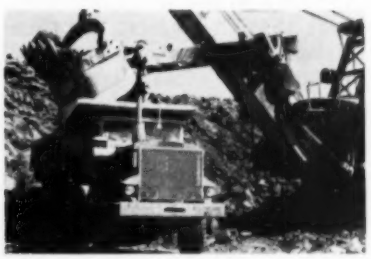

Functions of manufacturers' agents and wholesalers are essentially complementary, and not competitive.

An understanding of these functions—and responsibilities—makes for better marketing practices.

A Fresh Look at the "Middleman"

Digested from ELECTRICAL WHOLESALING, June, p78

A UNIQUE ANALYSIS of the "middleman" in a major industry has just been completed by an American college professor. His conclusions, in general, apply to many kinds of middleman operations and they contain lessons for manufacturers, manufacturers' agents, and wholesalers throughout the world.

During his two-year study of distribution in the electrical equipment and supplies industry, Dr. Edwin H. Lewis of the University of Minnesota personally interviewed executives in 150 manufacturing, distributing, and user companies.

This American industry has grown tremendously in recent years. There are now more than 3,000 wholesalers and nearly 900 manufacturers' agents handling a large share of the output of 3,400 electrical manufacturers.

Yet the role of the middleman is poorly understood. Taking for granted that the middleman does have a place in the marketing channel, Professor Lewis tried to identify practices that are useful to the industry and those that may be questionable.

The functions of the agent and the wholesaler are essentially complementary, and not competitive, according to Lewis.

The importance of the typical wholesaler depends, to a large part, on the availability of the stocks he carries. In a recent year, Lewis notes that electrical distributors had sales of slightly less than $3,000-million—and year-end inventory of $336-million.

The typical agent serves as the field sales organization for a limited number of non-competing manufacturers. He has complete responsibility for sales in an exclusive territory—including the selection of authorized distributors and sales to these distributors.

I. The Manufacturer's Agent

Agents contend that, man for man, they can do a better sales job than the salesmen of the average manufacturer. Lewis concedes that their contention is "probably sound"—perhaps because only the better agents survive. The agent has the advantage of spreading his selling costs over several products sold in the same market, to the same customers. His commission income gives him a strong incentive. He is more likely to have a "customer point of view" than the typical salesman. And he cannot be promoted or transferred. So he is not hampered by organization rivalries or personality conflicts.

Agents are indispensable to small manufacturers who are attempting to sell a limited line over a wide market. As manufacturers grow in size, the professor notes, there is a natural tendency to shift from agents to a company sales organization.

On balance, Lewis sees little justification for agents to own field stocks, especially if they sell primarily to wholesalers. As an exception, however, he recommends that products normally sold direct to users should also be sold direct by the agent—such as specialty equipment for which the agent is prepared to give technical assistance that the typical distributor is not in a position to give.

But Lewis says it is quite another matter when the agent tries to go "around the wholesaler." The trouble starts when the agent is under pressure to get business for new lines or less-desirable lines which wholesalers are reluctant to stock (often for good reasons, according to Lewis). Then the agent himself may become something of a wholesaler, carrying stocks and soliciting orders from users. This type of agent, says Lewis, is "likely to end up with only the poorer wholesalers as customers."

To be sure, the agent may find it necessary to set up reserve stocks of specialty or slow-moving products, but Lewis emphasizes that the stocking of normal lines can best be handled by wholesalers.

The manufacturer must make sure that his agents are not jeopardizing his market position. But by the nature of the agent's independence, the manufacturer cannot exercise close control over them. As one sales control device, some manufacturers have tried sales quotas with success. Most agents, however, do not think that quotas are very helpful. They seem to work best only if sales hold fairly steady.

An alternative to the quota system is the use of sales summary reports that show comparative data for individual agents, and perhaps for other agents as well.

The manufacturer assumes the credit risk in most cases and does the billing. Some agents, however, do a considerable amount of billing, and the majority say they are willing to aid the manufacturer in handling credit problems. Occasionally, an agent will even guarantee an account that he feels will be collectible, even though the manufacturer rates it as unsatisfactory.

II. The Wholesaling Distributor

To be successful, the wholesaler must make some choices. The range of products and buyers is

too broad for him to be all things to all people. If he wishes to cater to the heavy construction market or to consumer lines, for instance, it is unlikely that he can do a good job with specialized industrial products.

The wholesaler must develop the necessary cost and control records to make profitable choices. This way he will become aware of the losses resulting from price cutting, or from giving services that are not justified by the return.

Lewis says the typical wholesaler tends to carry too many competing lines—many still seem to think they have to carry every line as a "service" to their customers. Many wholesalers, Lewis concludes, do not realize the costs involved in handling multiple competing lines.

"When it comes to promoting products," the professor says, "he can do an excellent job with one or two lines, a fair job with three, but with many more he is actually just taking orders."

Manufacturers are sometimes to blame, Lewis contends. Some manufacturers try to get a larger share of the market by selling to as many distributors as possible. This is a questionable policy. As he puts it: "Limited distribution—correctly used—has strong advantages for both manufacturer and distributor."

For one thing, selective distribution makes teamwork easier to develop. Optimum stock levels for a given line, for instance, can best be decided by the manufacturer and distributor working together. And manufacturers can do a better job of helping wholesalers with sales promotion.

Price competition has increased among wholesalers. Consequently, Lewis advises the wholesaler to use considerable care in defining the area in which he expects to do business. Selling and delivery costs, in particular, need to be analysed in some detail. Otherwise, it is probable that some section of his market will be covered at a loss.

And if the wholesaler intends to expand through branch operations, he should keep in mind the key factors for success: close coordination, good communications, and well-trained branch managers. A common cause of branch failure is the failure to hire competent, trustworthy managers.

Increasing competition — and price cutting—has resulted in the growth of "brokerage" operations, by both established full-service wholesalers and by newer firms that do the bulk of their business this way—they simply pass on orders to the manufacturer for a commission.

But brokerage operations, by and large, are not the answer to the wholesaler's inventory problem, in Lewis' opinion. "Middlemen cannot expect to be paid for services not performed," he comments.

Still, the distributor needs relief from the burden of carrying lines that do not sell in his market. Manufacturers' field stocks may be one way of increasing distribution efficiency of slow-moving or specialty items. Key warehouses can serve as a reservoir for wholesalers in several areas.

Some manufacturers, however, use field stocks to supply items directly to customers, placing themselves in competition with their distributors. Often the net result is to carry duplicate stocks or to encourage "drop shipments" (the manufacturer handles the order, but gives the distributor credit for the sale)—in other words, to shift a function that should be performed by the wholesaler.

Field stocks are generally more helpful to the small wholesaler than the large one. And if a manufacturer emphasizes field-stock service in a competitive field, he may find that he has traded distribution through large wholesalers for distribution through smaller ones.

In the last analysis, it is up to the manufacturer to prove that field stocks—or any other method that changes the distribution channel—increases marketing efficiency and does not decrease it. ●

Toward Better Marketing

With limited selective distributorships, both of the parties have firm obligations.

The manufacturer should . . .

1. Limit the number of distributors to those necessary for adequate coverage of the market.
2. Sell direct to the wholesaler's customers only if the long-range advantage is clearly apparent.
3. Work out a basic stocking policy with distributors—with the details modified for each situation.
4. Take the distributor into his confidence more than the typical manufacturer now does—distributors can be of great assistance in solving sales problems.
5. Give promotional help and support to the distributor—including advertising programs and the training of salesmen.
6. Give whatever service is needed to make his products competitive—data for bids, engineering service, prompt delivery, or whatever is required.

The wholesaler should . . .

1. Limit or forego competing lines, depending on the product.
2. Serve as a sales organization and not an "order-taker": he should adopt all the tools of good sales management.
3. Maintain enough inventory to make the majority of sales from his own stocks (exceptions might be very large orders and slow-moving items), work out optimum stock levels, and set up an inventory control system.
4. Keep his internal operations —warehousing, order filling, invoicing, credit, delivery—as efficient as possible.
5. Act as the manufacturer's outpost in the field—building good will, handling complaints, passing along market information he picks up.

Traffic is Getting Heavier with MORE SAILINGS Every Week

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In Marketing

• **ADVERTISING BUDGET** of the "average" industrial company in the U. S.—as indicated by a survey of nearly 500 companies by *Industrial Marketing* magazine—is submitted in October and approved in December. It is flexible within a 5% over-under allowance; and there is an over-all review every three months.

The budget has risen an average of 14% per year for the past three years, and now totals 1.6% of gross sales. Magazines (48.5%), catalogs (13%), and direct mail (9.3%) get the biggest share.

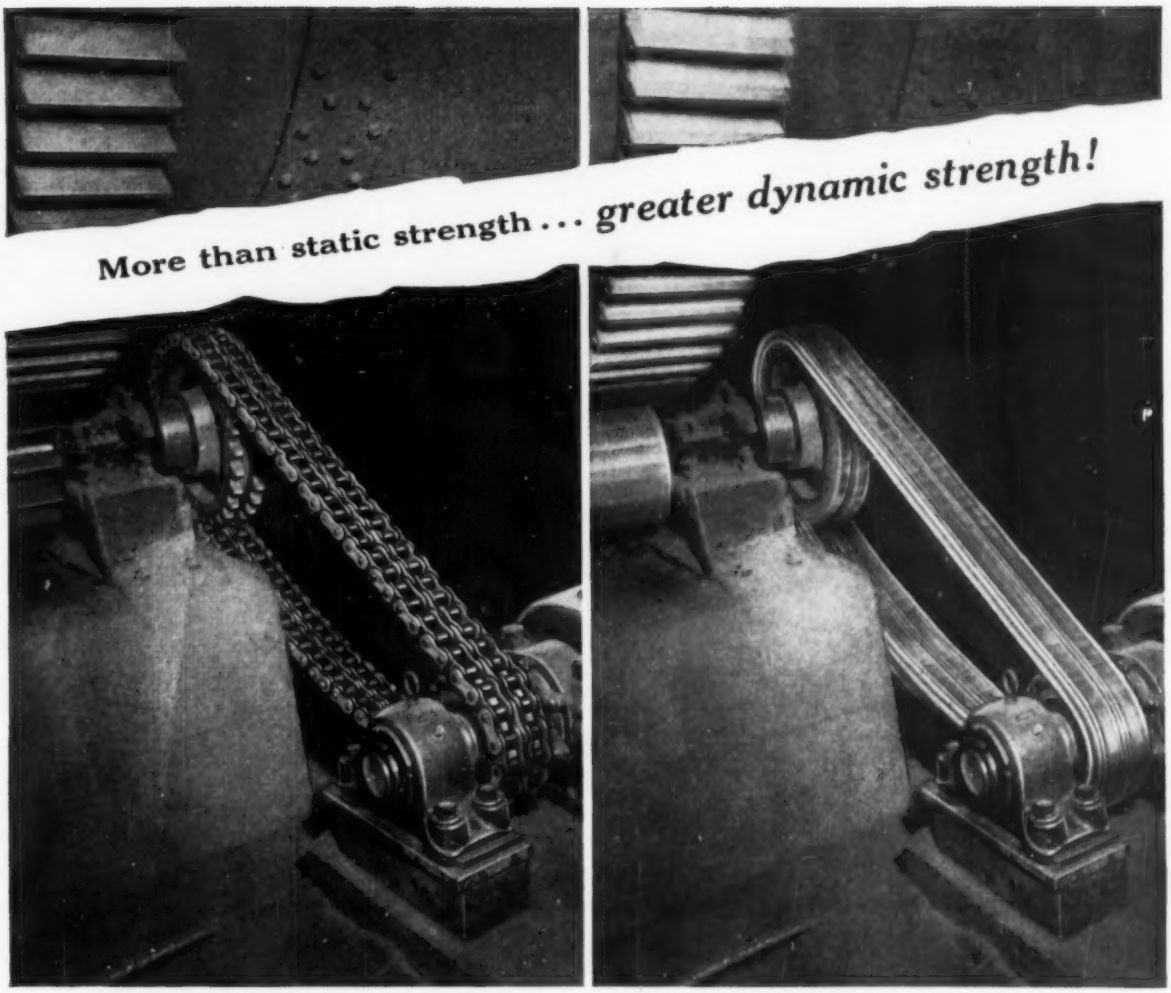
Expenditures are not concentrated into any particular time of the year; and advertising effectiveness is measured primarily by volume of inquiries and salesmen's reactions.

• **A CODE OF ETHICS** and a "Who's Who" of public relations practitioners are being prepared by the International Public Relations Assn. The group's First World Congress in Brussels was attended by 207 delegates from 2[illegible] countries.

• **UNDERWATER ADVERTISEMENTS** for skindiving consumers were bound to come sooner or later. Spain's Lloret del Mar beach now has billboards for snorkling swimmers about 27 meters offshore and 5 meters down. (*Tide, July* 11, *p* 15)

• **PREPARING FOR THE COMMON MARKET:** A central coordinating bureau has been established by fruit processors in the European common-market nations, with headquarters in Brussels. Meanwhile, seven Belgian fruit processors, representing 80% of the country's preserves production, have decided to merge plant and sales facilities.

• **JAPAN'S FLOATING FAIR** of industrial products is scheduled for a five month tour of Latin American ports, starting in December. Inquiries are still coming in from a similar tour of Southeast Asia last year, reports an official of the floating fair commission (headed by Yoshio Suzuki, director of the Japan Export-Import Bank).



More than static strength . . . greater dynamic strength!

RESISTANCE TO TENSILE STRESS is achieved with properly heat-treated, accurately machined side bars made of premium steel and fitted with properly hardened pins, bushings, rollers.

STRENGTH OF CHAIN IN MOTION results from such refinements as pitch-hole preparation, micro-finish of parts, special processing of side bars, pre-lubrication, rigid quality control from materials selection to final boxing.

Big reason for the extra life from LINK-BELT roller chain

STARTING shock, heavy loads and impact of sprocket engagement on modern heavy-duty machinery requires a chain that will resist fatigue. That's why Link-Belt gives you *greater dynamic strength* to shrug off stresses. Pre-stressing, closer heat-treat control, lock-type bushings, shot-peened rollers—all these Link-Belt refinements contribute extra stamina for extra life . . . provide smoother, more efficient chain performance . . . reduce drive and conveying costs.

You have a choice of single- or double-pitch, single- or multiple-strand chain. Get in touch with your Link-Belt representative. Or write direct.

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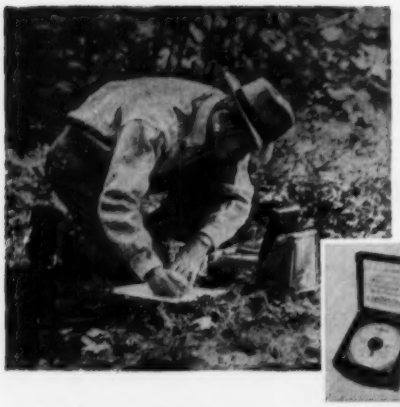
LINK-BELT COMPANY: Engineers • Manufacturers • Exporters of Machinery for Handling Materials and Transmitting Power • Established 1875. EXPORT DIVISION: Dept. 958-IMD, 233 Broadway, New York 7, U.S.A., Cable Address: Linkbelt—New York • Australia, Marrickville (Sydney) • Brazil, Sao Paulo • Canada, Scarboro (Toronto) • South Africa, Springs • Representatives Throughout the World.

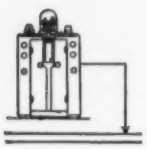


Where Performance Counts

WALLACE & TIERNAN EQUIPMENT IS USED

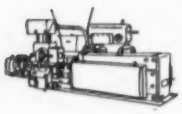
PRESSURE SENSITIVE INSTRUMENTS

The W&T Sensitive Altimeter, shown above, was used on a reconnaissance survey where quick, accurate results were required. The W&T Altimeter was chosen because of its dependability, rugged durability and high order of accuracy. These qualities are typical of all W&T's aneroid and mercurial pressure sensitive instruments, many of which are used in exacting research work and production testing.



CHLORINATION

Equipment includes chlorinators of both the water and mechanical diaphragm types in all capacities, hypochlorinators, and many other auxiliary and accessory items designed for use in the treatment of water for sanitation as well as for numerous industrial purposes.



PROCESS FLOW CONTROL

Equipment includes chemical solution feeders, gravimetric and volumetric dry feeders, and gravimetric meters for use in the chemical, grain, and food processing industries.

AIDS TO NAVIGATION

Includes a number of protective devices for navigation such as buoys, lamp changers, flasher mechanisms, signal timers, fog horns, aircraft flasher units and other related apparatus designed for use in the marine and air transportation field.

Other quality Wallace & Tiernan products and services used throughout the world are listed below. For further information send for list number F-104 of available free technical publications on all Wallace & Tiernan products.

Ammonia Control Apparatus — Cathodic Protection Systems — Chemical Feeders — Chlorinators — Decay Control Process for Produce — Electric Marine Beacons — Flour Processing Chemicals — Pharmaceuticals — Precision Instruments

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REPRESENTED IN MOST COUNTRIES

F-104

$1.25-million, including a government subsidy of $700,000.

● **TELEVISION** continues to make news: In Italy, buyers of television sets can now make a "down payment" of about $8, then pay the rest by feeding coins into a "taxi-vision" gadget that keeps a record of how much has been paid. For a $175 set, the normal installment buying plan is $32 down, with monthly payments of $8. There is also a license fee of $32.

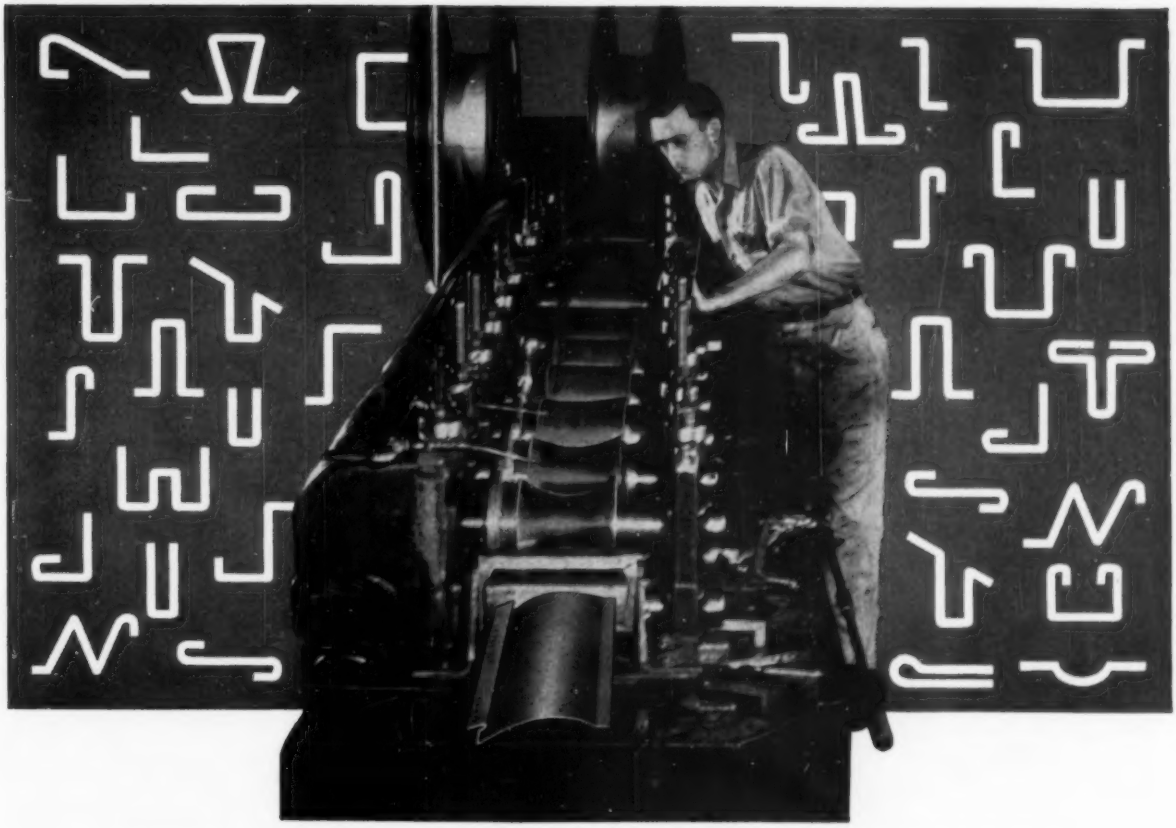
In Britain, an advertising agency —London Press Exchange Ltd.— plans to install a $28,000 closed-circuit television system linking 40 executive offices and three conference rooms. One use will be to pretest advertising messages under actual viewing conditions by inserting them into current programs.

● **CREDO** for a marketing man, in the words of Ray R. Eppert, President of Burroughs Corp.:

"The salesman must be supported in depth. He may be personally effective, but he will be hobbled unless previously the right decisions have been made in research and development, product planning, market analysis, sales training, and advertising. To the personal skills of the individual salesman we must add the depth and breadth of the organization behind him." (*Business Week, July* 12, *p* 48)

● **A FRENCH TRADITION** of decorating home appliances has been revived by General Motors of France. The company gave ten of France's top artists—on the order of Jean Cocteau and Bernard Buffet—free rein to turn refrigerators into objets d'art. After a series of exhibitions, the refrigerators will be auctioned off to charity. But as *Printers' Ink* comments, "If the idea catches on, appliance makers will have to add more creative people to their staffs."

● **NUERNBERG TOY FAIR** is making more room available for foreign exhibitors this year. The dates are February 22 to 27. A couple of other German fairs for your calendar: The International Plastics Show in Duesseldorf, October 17 to 25, 1959; and the Anuga Food Show in Cologne from Sept. 26 through October 4, 1959.



With a Yoder...ONE MAN PRODUCES 30,000 FEET OF SHAPES A DAY!

Cold-roll forming with a Yoder Roll-Forming machine makes spectacular production possible in many metalworking applications and industries.

A multitude of shapes, simple or complex, produced from a wide variety of coated or uncoated stock, and destined for a virtually endless list of purposes, can be easily, quickly and economically produced with a Yoder cold-roll forming machine.

Whether it be moldings, structurals, siding, roofing, tubulars, cabinet shells, or any one of a thousand requirements, it can be quickly produced with accuracy and uniformity the Yoder way. The conversion cost is usually so low that even part-time operation makes a Yoder cold-roll forming line a profitable investment.

A great many modifications of the basic shape such as welding, coiling, ring forming, notching, perforating, embossing and cutting to length, can be simultaneously introduced with little or no additional labor cost. It will pay you big dividends to fully investigate the advantages of Yoder cold-roll forming. A fully-illustrated, 88-page book clearly discusses every important aspect of this amazingly versatile method of metal fabrication... it is yours for the asking.

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COLD ROLL FORMING MACHINES
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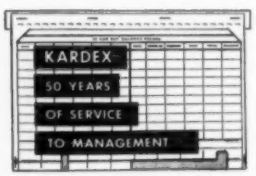
Kardex* for

accounts receivable

—cuts posting and reference time in half!

Kardex centralizes accounting and credit data — provides a complete record for each account. Kardex Visibility provides signal controls which alert management to accounts falling outside of the accepted payment pattern.



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DIVISION OF SPERRY RAND CORPORATION

Idea-packed films show how Kardex controls can work for *you!* To see them, contact your local Remington Rand representative — 18,000 Branches and Distributors throughout the world.

● FINANCE

In the Language Of the Foreman

"WE GIVE THE DEPARTMENTAL FOREMAN a cost per unit in any type unit he thinks will serve his purpose to the best advantage," General Manager John C. Suerth of Gerber Products Co. told a recent conference of the American Management Assn.

Cost analysts at Gerber—a producer of packaged baby food—think in terms of a standard cost per finished case. But they realized that this would not be meaningful in all departments as a measure of actual versus theoretical figures. Supervisors must have cost information "in their own language."

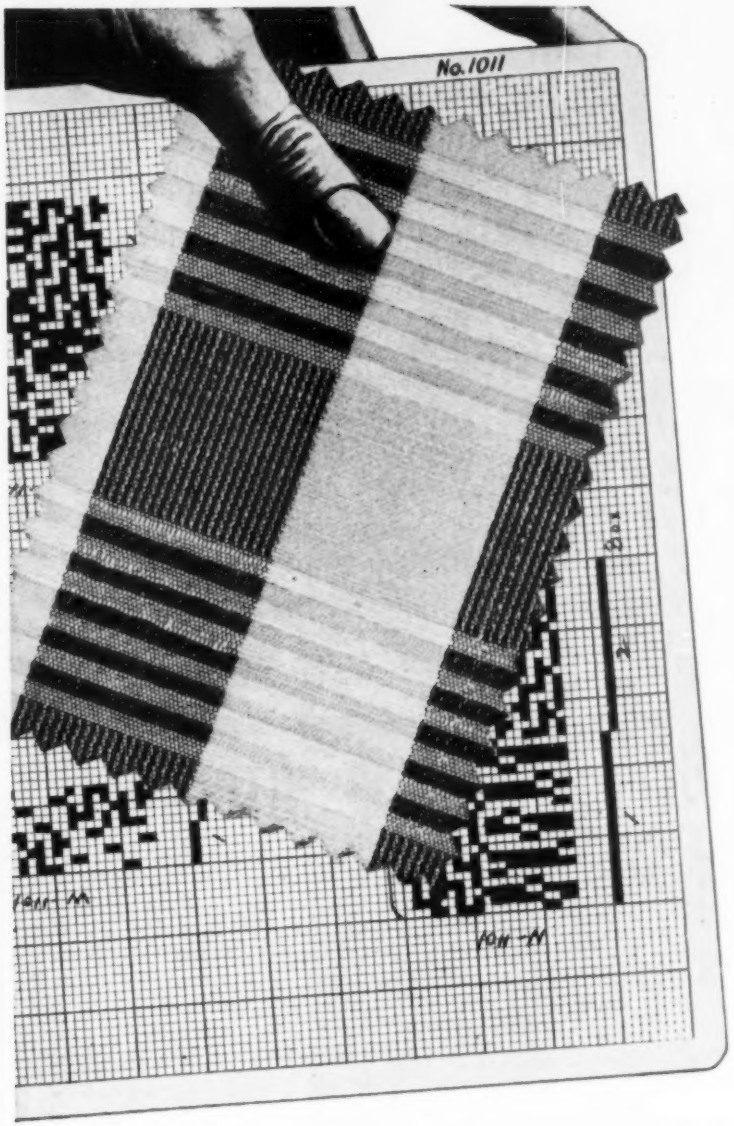
"We don't use dollar-and-cents figures in any of our direct cost reports," he continued. "The departmental foreman has no control over the cost of ingredients nor the cost of labor per hour. His only area of control is over waste—both labor and materials."

For the preparation department, where raw produce is made ready for dicing or straining, waste is stated as a percentage per 100 pounds of produce. For the kitchen department, the standard is a "converted case," obtained from ratios of time, process, and container sizes. Appropriate standard case units are also used in the cook room, product container, labeling and casing departments.

Costs are pinpointed to the department really responsible. If raw produce requires extra sorting beyond preparation department standards, for instance, the plant superintendent may reject it —and the produce department must pre-sort or dispose of it.

Indirect cost units are also tailored to each department. "We speak of costs per 1,000 pounds of steam or per 1,000 gallons of water in some departments," Suerth explains, "and in others we use costs per thousand containers." Indirect costs are stated in dollars-and-cents so that direct cost comparisons can be made.

Each supervisor receives the reports that apply to his own department. Complete reports go to interested management members.



This fabric can be yours alone

The pattern shown here is one of many exciting new fashion and decorative fabrics developed for you by Celanese Corporation of America.

You will find among them intriguing textures, lovely colors and designs both daring and delicate.

Famous fibers are at the heart of these fabrics. They include acetate, the beauty fiber. Care-free Arnel triacetate. Celaperm, the acetate yarn with sealed-in color. Fortisan, the super-fine rayon.

We offer these fabric suggestions to alert textile men to develop *exclusively* in your area. Your Amcel representatives have sample fabrics ready to show you. And remember—with our fibers goes our technical assistance as well.

Celaperm® Arnel® Fortisan®

See your representative listed below for: Plastics, Polyester Resins, Chemicals, Textiles, Cellulose Acetate.

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Australia, Melbourne...Hardie Trading Co. Ltd..... Plastics & resins.
Austria, Vienna XIX....Eugen Farber.....Chemicals, plastics, resins, C. A. & textile products.
Belgium, Brussels.....Keyser & MacKay.....Resins.
Belgium, Gand....Cocentra S.P.R.L....Chemicals, plastics & C. A.
Ceylon, Colombo...Mansram (Ceylon) Ltd...Fabrics.
Denmark, Copenhagen.....Johan Foge Jensen....Chemicals.
Denmark, Copenhagen...A/S Industriprodukter...Plastics & resins.
Denmark, Copenhagen.....Otto Sandgreen..... Textile products.
Egypt, Cairo.....Padova & Co.....Textile products.
England, London.....A. Revai & Co. (Chemicals) Ltd. ...Chemicals.
England, Coventry.....Coutaulds Ltd.....Plastics.
France, Paris.....Pautrot & Bonnet.....Chemicals.
France, Paris.....Loiret & Haentjens.....Plastics & textile products.
Greece, Athens....N. G. Zoullas & Co.....Chemicals, plastics & textile products.
Hawaii, Honolulu....Theo. H. Davies & Co. Ltd..... Chemicals, plastics & textile products.
Holland, Amsterdam...N. V. Consolco....Chemicals.
Holland, Den Haag....Handelsmaatschappij Vos & Co. N.V....Plastics & resins.
Holland, Rotterdam.....Internatio.....C. A. & textile products.
Hong Kong...Optorg Co. (Malaya) Ltd.....Chemicals, plastics, resins & textile products.
India, Bombay..Banwari Lal & Co., Ltd...Chemicals, plastics, resins, C. A. & textile products.
Israel, Tel-Aviv...Manfred Gottesmann...Chemicals, plastics, resins & textile products.
Italy, Milano....Usvico (Societa Industriale Commerciale)...Chemicals, plastics & textile products.
Japan, Tokyo.....Percy Breen.....Plastics.
Korea, Seoul.....Bando Trading Co., Ltd.....Plastics & resins.
Korea, Seoul....Sung Prum Lee....Textile products.
Lebanon, Beirut....A. Sahmarani Freres.....Textile products.
Morocco, Casablanca..I. J. Alazraki..Textile products.
New Zealand, Auckland....Hardie Trading Co. (N.Z.) Ltd....Plastics & resins.
Norway, Oslo.....Christen Hoeg.....Chemicals, plastics & resins.
Norway, Oslo.....S. E. Solberg.....Textile products.
Pakistan, Karachi.....Syed A. & M. Wasir Ali..... Chemicals, plastics, resins & textile products.
Philippines, Manila.....Union Trade Distributors.... Chemicals, plastics & resins.
Philippines, Manila.....F. E. Zuellig Co., Inc..... Textile products.
Rhodesia, Bulawayo.....John Beith (Rhodesia) Pvt. Ltd....Chemicals.
So. Africa, Durban (Portuguese East Africa, Nyasaland) ...John Beith (S. A.) Pty. Ltd....Chemicals.
So. Africa, Johannesburg....J. J. Allman Sales Corp. Plastics & resins.
So. Africa, Johannesburg (Durban & Capetown)..... E. I. Rogoff Ltd....Fabrics.
So. Africa, Johannesburg (Durban & Capetown)..... Internatio-Rotterdam (So. Africa) (Pty.) Ltd.... Textile products.
Spain, Barcelona....Extractos Curtientes y Productos Quimicos, S. A....Chemicals, plastics & resins.
Sweden, Alvenas Valberg.....Svenska Rayon Aktiebolaget...Textile products.
Sweden, Stockholm....A. B. Metall & Bergprodukter ...Chemicals.
Sweden, Stockholm.....Scandinavian Raw Materials ...Plastics.
Switzerland, Basel.....Chemische Fabrik Schweizerhall A. G....Chemicals, plastics, resins & C. A.
Switzerland, Zurich.....Walter Aebli & Co..... Textile products.
Syria, Damascus.....Sahmarani Hammour & Cie.... Textile products.
Taiwan (Formosa), Taipei.....Dah Chung Trading Co. ...Chemicals, plastics, resins & textile products.
West Germany, Hamburg..Karl O. Helm...Chemicals.
West Germany, Hamburg.....Plastica Renning K. G. ...Plastics.

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1-02

Financial Digest

Many Wall Street analysts admit they are confused.

As INTERNATIONAL MANAGEMENT DIGEST went to press, earnings of many American business firms were at a "recession low." Yet stock prices advanced to the highest point in a year during the traditional midsummer "rally."

Undoubtedly stock prices have reflected investor confidence that the recession has ended (page 1). But many observers suspect that the market has already more than discounted the business upturn, and that a reaction is due.

But more basic than the rally—and the likelihood of a setback in prices sometime soon—is the fact that the U.S. stock market has remained remarkably steady throughout the recession, the worst since the war. Price averages fell less than industrial production, and for less than earnings.

Perhaps the best explanation, as summed up by investment advisor David L. Babson, is that relative stability in the face of adversity is "a basic trend rather than a temporary phenomenon."

The argument is that the American economy now has built-in stabilizers (unemployment payments, government spending, a managed credit policy) that work; that pension funds and mutual investment funds provide a steady flow of cash that must be put to work; that there is an increasing conviction that common stock shares offer the best protection against inevitable inflation; that professional investment managers are growing in influence.

●

Keep an eye on the International Finance Corp., the World Bank affiliate that aids private industrial investment. Now two years old, IFC is beginning to hit its stride—and Director Robert Garner has just been given a vote of confidence by appointment to a second term of office.

With a relatively small direct investment of $10.7-million, IFC has so far generated an estimated total investment of $50-million. Two recent and typical IFC investments: $630,000 for a steel finishing plant in Pakistan, and about $2.5-million to help expand a Jeep plant in Brazil.

●

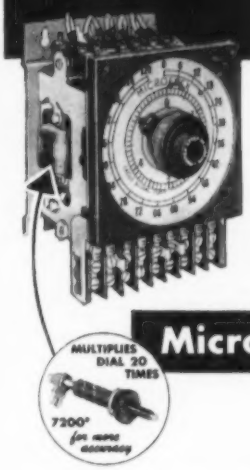
The dilemma of government debt managers is well illustrated by the Canadian refunding of 40% of its national debt—$6,400-million into long-term bonds of up to 25 years maturity and 4½% interest. As interest rates rise in response, the result should be to encourage savings and dampen inflation, but discourage large new capital investments and slow the business upturn. Thus Canada is betting heavily on an orderly—and sustained—business recovery.

●

Sterling weathered the latest Middle East crisis with only minor support against the dollar and Deutsche mark. And as The Economist points out, ". . . since it occurred at the season of sterling's commercial strain, the resistance denotes encouraging strength underlying confidence in the pound." . . . **In Brazil, West European currencies**—actually "Hague Club" convertibility units—have been selling at a higher premium than the U.S. dollar for several months. The main implication of this turnabout: European currencies have joined the dollar in short supply.

Microflex reset
TIMER
vital component
in modern
AUTOMATION

- The Double Micrometer Dial permits settings of pinpoint accuracy
- The Patented Pinion and Threaded Axle carries out the accuracy to ·1 60 of a second



Microflex

—a synchronous motor driven device which trips its contacts closed or open after an adjustable time interval. Starting and resetting is electrically controlled. Offers over 150 timer operating combinations, and is designed for numerous industrial applications. Its universal acceptance by industry throughout the world makes it possible to offer this high quality instrument at a nominal cost. Also available Microflex Reset Counter—counting range from 1 to 400 in steps of 1 with 100% accuracy.

EAGLE
SIGNAL CORPORATION
Export Department
13 East 40th Street, New York 16, N. Y.

Switchboard that Thinks

A telephone switchboard that almost "thinks" is now available for commercial use (picture, left). The system is said to memorize numbers so that it can complete calls in various ways. Although most of its operations are not new to telecommunications, the manufacturers say this is the first time all have been included in a single switchboard.

The basic "thinking" operation is in the switchboard's ability to complete calls without manual dialing each time. For example, if a person gets a busy signal from the number he has dialed, he simply dials a special code number and hangs up. When both numbers are clear, the switchboard automatically rings both parties.

If a businessman expects to be away from his office 'phone, he can dial a code that will automatically route incoming calls to another predesignated line.

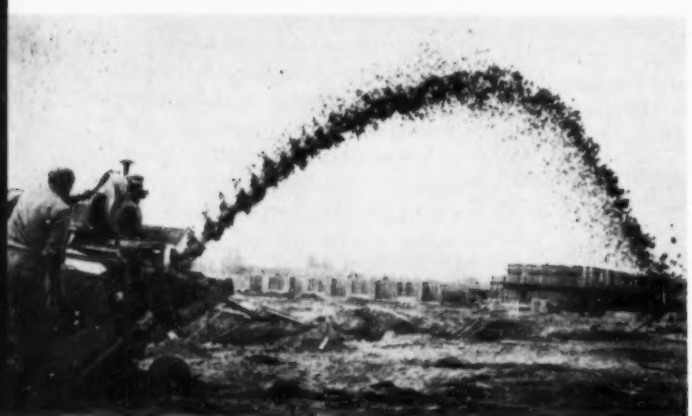
The system can even answer the 'phone if an executive does not want to be interrupted. All incoming calls can be rerouted to an automatic answering device that explains to callers that the executive can be reached later.

Though designed for firms needing only 30 lines, the unit can be adapted to over 1,000 lines. **Telefonaktiebolaget L. M. Ericsson, Stockholm 32, Sweden.**

Heavy Loads Slide Off and On

The truck-mounted Dempster Dinosaur shown at right is the latest example of the "unit" approach to materials handling. A simple, relatively lightweight affair, it is built to handle heavy loads both on and off the road, and in plants. Two models available for road use handle loads of 9,900 and 13,500 kg., while off-the-road models now being designed will have a capacity limited only by the loading power of the truck, according to the manufacturers. Different containers will soon be available for handling various loads, including liquids and general cargo.

The Dinosaur is very simple in design: It is a 3-cylinder unit consisting of a tilting frame and large containers that are drawn up and down with a ratchet and hook action. **Dempster Bros. Inc., P. O. Box 3127, Knoxville 17, Tennessee, U. S. A.**



Jet Conveyor for Stockpiling

The new "jet" conveyor shown left will load or unload sand, earth, mud, cement, grain, corn or rubbish at the rate of 60 tons per 60 minutes to a distance of 60 feet (18 meters). The unit is said to be most suitable for stockpiling materials in places like sand and gravel yards.

Two fast-moving, flexible conveyor belts, placed one above the other, feed the material in and out of the machine. The upper belt has herringbone-type dividers that add to the momentum of the moving substances.

The conveyor comes with either an electric motor or a gasoline engine. **Handelmij N. V. Zelandia, 1 Walenburgerweg, Rotterdam, Netherlands.**

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Small, High-Speed Diesel

The economy and speed of a new four-cylinder diesel engine make it suitable for a number of applications—small tractors and harvesters, trucks, taxi-cabs as well as ordinary motoring. The 1.6-liter engine, known as the "Four 99", develops 35 b.h.p. at 3,000 r.p.m. **F. Perkins Ltd., Peterborough, Lancs., England.**

Records Efficiency

Management can easily check the efficiency of operators, machines and processes with a new Efficiency Recorder. The chart on the motor-driven aluminum drum shows the "on" or productive time, as well as the idle or "down" time. The recorder is continuously readable in percentage of time over the whole shift, whether it is eight hours or one, seven, or 31 days. The climbing upper line shows productive time, while down time appears instantly as a broad, horizontal mark. **Gorrell & Gorrell, Westwood, New Jersey, U. S. A.**

Dictating Machine

The new Norelco 35 portable dictating machine has a magazine loading system for simpler operation. To record or play back, the user simply drops the magazine into its receptacle and pushes a button. 35 minutes of dictation can be recorded on one reel. **North American Philips Co., Inc., 230 Duffy Ave., Hicksville, N. Y., U.S.A.**

LOOKING AHEAD

Technology

Air Bubbles Protect Harbor Entrance

British engineers are testing a new method for controlling the force and fury of the waves—a breakwater of air bubbles, generated by compressed-air lines laid across the entrance of a harbor. A pair of such lines have been put in place at Dover, England, stretched across the bottom between piers that make the gateway to the inner harbor. Air distributors on the lines create a curtain of bubbles that is expected to cut the height of a wave in half and its hitting power by a quarter. British observers note that these pneumatic breakwaters also might be used for protecting offshore oil derricks, marine salvage operations, loading and unloading of ships at anchor.

Electronics Aids Newspaper Publishing

A photoelectric relay that accurately sets a one-ton roll of newsprint in place (picture left) is one of a growing number of ways that electronics is helping city newspapers trim costs. Also in use at large U.S. dailies are electronic aids to photoengraving and color registration, ink-flow controls and dielectric ink dryers, automatic conveyors, counters, bundlers. (Electronics, July 11, p 15)

Plastic Serves New Purpose in Medicine

Polyurethane foam soon may be used in repairing bone fractures—substituting for pins and other metal fasteners—as a result of research work by two U.S. doctors, Michael Mandarino and Joseph Salvatore. They have used the plastic with good results on 130 dogs suffering from a wide variety of bone breaks and diseases. The foam is easy to apply, nontoxic, sets in 10 minutes, and forms a strong bond compatible with the body's bone-building activity. (Chemical Week, July 12, p 70)

Company Prospects for Gold at Home

A U.S. fabricator of precious metals recently has turned to collecting and burning soiled paper wipers—and is saving $1000 a month by doing so. The wipers are used to clean oil, solvents and dust from tools and finished products. They pick up tiny particles of gold, platinum, iridium and other rare metals. Burning the wipers in special smelters ends up in small slugs worth from $20 to $100. (Factory Management & Maintenance, July, p 96)

New Process Aids Dying of Cotton

A new one-step de-sizing, scouring, and bleaching process for cottons has been developed by Montecatini of Italy. The process reportedly enhances cotton's receptivity to dyes better than hydrogen peroxide, the favored agent in many mills. The treatment takes 20 minutes and is carried out at what Montecatini calls "rather low" temperatures. (Chemical Week, July 26, p 66)

Turn the page for more TECHNOLOGY

Foam Goes Down the Drain—and Pleases Sewage Men

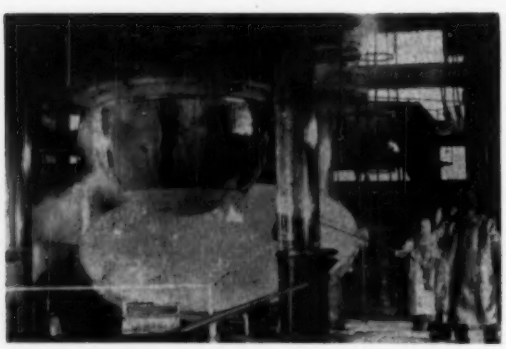
Dutch scientists have come up with a new detergent that has three enviable characteristics: 1) it foams, which it must do to please housewives; 2) it can be boiled, also a requirement of home use; and 3) the foam is readily consumed by bacteria, which is very rewarding news for sanitary engineers. Detergent foam normally causes water and sewage experts a great deal of trouble. Bacteria consume the offensive materials in sewage but can not digest all the foam. The result is frothy rivers and waterways, which annoy fishermen and city planners. The new detergent now is being produced at a Rotterdam plant, with initial output going to France. (The Listener, June 19, p 1006)

Secret Process Turns Autos into Scrap

Junked automobiles are being turned into prime-value scrap in about 15 seconds in a mysterious, steel-walled room of U.S.A.'s Proler Steel Corp. Little is known about what goes on behind Proler's walls except, as one visitor reports, "an ear-shattering crunch that sounds like the end of the world." Broken-down cars and parts of cars move by conveyor into the hidden chambers, then come out as easily-handled fragments of metal, which are then subjected to heat and electromagnetic separation. The final product is just what the steel mill wants and finds so difficult and expensive to get—a uniform product unspoiled by odd shapes, wood, rubber, glass. One firm has already contracted for the entire Proler output. (Business Week, June 28, p 80)

Swedish Firm Markets PrePeeled Potatoes

Swedish housewives are being spared the chore of peeling potatoes by Skalex, a Malmo (Sweden) packer. The firm is supplying retailers with peeled potatoes immersed in preservative-treated water in 1-liter polyethylene bags. Peeled carrots and other root vegetables are packaged in the same manner. (Food Engineering, July, p 23)



Giant Slab Is Pressed for Reactor

The steel hemisphere shown being eased out of a 6500-ton hydraulic press in the photo left is probably the largest, thickest and heaviest pressure vessel closure ever made at a single stroke by die-forming. The head was pressed from a 29-ton circular plate of carbon-silicon steel, 4.5 meters in diameter and 20 cm. thick, which U.S.A.'s Babcock & Wilcox Co., the engineers, had to heat for six hours to raise the temperature to 1100 C.

Polyethylene Pipe Aims for Big New Markets

The versatile plastic polyethylene has so far been only a specialty item in the piping market, but the next few years will see it offering stiff competition to steel, cement and clay. Polyethylene's special advantages include light weight, reduced labor costs, corrosion resistance. It has been gaining ground rapidly in the U.S.A.—consumption moving from 1.8 to 23 million kilos in the last five years, and expected to top 40 million kilos in 1960. Here are some of the piping applications: household piping, for such services as 10-cm. sewer lines, cold water distribution; farm water lines; irrigation and sub-irrigation; petroleum product piping and mine usage. In Switzerland, for example, polyethylene pipe is being used extensively for conveying milk. (Modern Plastics, July, p 82)

● NEW PRODUCTION TECHNIQUES

New Glues Hold Like Steel

WONDER ADHESIVES are today beginning to take the place of welding, soldering, and mechanical fasteners for joining metals and other materials. Dozens of new bonding agents are moving on to the market, each prescribed for a specific range of uses, and some so strong that a drop can support the weight of an auto (IMD—Jan., p 62).

Manufacturing management can find a variety of advantages in the new adhesives. They are often less costly than metal fasteners, easier to apply; they provide uniform distribution of stresses. They frequently simplify the fabrication of complex shapes, act as sealants as well as joiners—often with a substantial weight-saving.

New strength and staying qualities are constantly being added to adhesives. Some of these adhesives do not deteriorate at 260 C, yet remain flexible at −70 C. Others provide shear strengths of up to 600 kilos per square centimeter.

Industrial adhesives differ markedly from the old-fashioned glues that were derived from fish and animal matter. The new products are based on a variety of resins and natural or synthetic rubbers, each of which imparts special characteristics to the adhesive. This results in wide variations in the method of application, drying rates, and resistance to specific conditions.

Here are a few examples of the variety of jobs that the new adhesives are doing effectively: bonding rubber to metal, wood to concrete, plastic laminates to steel, vinyl coated fabric to wood, neoprene rubber to glass.

High-strength adhesives are increasingly being used for structural joining of steel, stainless steel, aluminum, copper, magnesium and titanium. Below are some of the reasons:

—Adhesives permit the design of smooth joints and offer a sealing function with a bonding function.

—Adhesives transfer stresses from one member to another better than mechanical fasteners.

—Unlike soldering, no increased temperatures occur that may cause distortion of parts.

Use of the new adhesives makes it as easy to bond aluminum or magnesium to stainless steel or cast iron, as it is to bond one of these metals to itself. Irrespective of the metal being bonded, often the same adhesive, the same heat, and just about the same technique is used.

Some of the strongest adhesives are made from epoxy resins. Until recently a chemical activator, or catalyst, had to be carefully mixed with the resin just before use. Working life of the mixture was limited to from ½ to 2 hours.

Now a new family of epoxy adhesives has been developed by an American manufacturer (Minnesota Mining & Manufacturing Co.) that does away with this activation step. The adhesives can be used just as they come out of a can, and have a long working life.

Adhesives have made possible the extensive use of sandwich construction. Materials are being bonded to honeycomb or other cores. A U. S. house-trailer builder now cements plywood panels to floor frames, saving in nails and time.

No one adhesive does all jobs, but there is an adhesive for practically every bonding need. The following factors should be considered in selecting an adhesive: 1) time and temperature needed for curing; 2) shear, peel and impact strengths; 3) the adhesive's resistance to acids, humidity, high and low temperatures. (*American Machinist, June 30, p 85; Purchasing Week, July 7, p 18*) ●

Sound Gets into Tight Corners

Cleaning tiny bearings was a costly and tricky problem until this British firm turned to ultrasonic equipment.

MINIATURE BEARINGS must be immaculately clean. Diameters often are as small as 3 millimeters, and the bearing may work at a speed of up to 60,000 rpm. With the close tolerances required—as fine as 2.5 microns—even the most minute trace of dirt or foreign matter can ruin performance.

Lapping compounds used in polishing bearings are extremely tenacious. Even repeated cleanings with solvents plus mechanical agitation may not remove all residues. Traces often are picked up at one part of the bearing only to be redeposited at another.

Ultrasonic cleaning has solved the problem at the Crawley works of British Manufactured Bearings, Ltd., England. The firm cleans bearing components in paraffin immediately after manufacture, then treats them for 30 seconds in ultrasonic equipment developed by Dawes Instruments, Ltd. All traces of dirt, abrasives, and paraffin are removed.

The equipment consists of an electronic oscillator that feeds an alternating current to a transducer at the base of a small stainless steel tank. Expansion and contraction of the transducer communicates mechanical vibrations to the liquid in the tank. The resulting cavitation gently scrubs the surface of the component dipped into the tank.

The equipment operates at a frequency of 40 kilocycles per second. Lower frequencies give rise to noise, while higher frequencies tend to destroy the transducer. Moreover, at higher frequency the ultrasonic action seems to result in shadow areas that are not cleaned. Extended trials have shown that at 40 kc/s cavitation is concentrated on the surface of components rather than in the body of the liquid, and cleansing is better.

Either one two-gallon tank or two one-gallon tanks can be used. Two-tank operation was found most useful with bearing components, because it allowed cleaning to be carried out in two stages, one rough and the other final.

After ultrasonic cleansing, parts are air-dried. The solvent is changed frequently. The soiled fluid is allowed to settle, and then is filtered and re-used.

Cleaning, gaging, grading and assembly are carried out in a room with its own supply of cleansed and conditioned air. The air is kept at a pressure somewhat above atmosphere to insure that no dust enters when the door opens. The bearing components are sized with pneumatic gages, then packed in air-proof bags to keep them clean until assembly. (*Metalworking Production, July* 4, *p* 1179) ●

LIGHT-WEIGHT car has single-piece seats, windows glazed into plastic panels.

Plastics Take to the Rails

REINFORCED PLASTICS are reaching out for new worlds to conquer. They have already found success and acceptance in the manufacture of furniture, boats, automobiles. Now they appear destined for a wide range of uses in railroad cars.

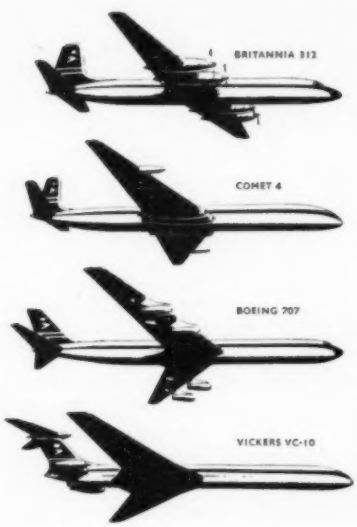
How far they have gone can be seen in the interior of the Pioneer III (shown above), a car built by U.S.A.'s Budd Co. with materials developed by Owens-Corning Fiberglas Corp. Virtually the entire interior of the coach, as well as sections of the exterior, is made of Fiberglas reinforced plastics.

This means a coach that weighs less than half of its counterpart in conventional materials—23,786 kilograms for the Pioneer as compared with 54,545 kilograms for other cars. The plastic car is cheaper to haul, easier to clean.

The coach interior is molded in sections and consists of a series of bays. A single panel forms the window frame and lower portion of the luggage rack; another panel, the upper portion of the luggage rack, half the ceiling and part of the air duct. Windows are glazed directly into the panels with rubber moldings, and panels are connected with a single aluminum molding.

Other plastic applications on the car include: the double seats shown in the photo, each made of a single molding; one-piece washrooms that include walls, window frames, hopper and wash basin enclosures; steps for boarding and leaving the train.

Railroad men say that Budd's Pioneer III—built as a prototype, but recently purchased by a large U. S. railroad—may help lines all over the world reduce operating and maintenance costs. Plastics also cut initial costs, because their application requires no special tools and they can be molded accurately to difficult shapes. Large pieces are easy to make, which means fewer pieces, faster assembly. ●



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Electrons Boil to New Power

MAJOR ADVANCES in the quest to produce electricity directly from heat have just been announced by two prominent U. S. research laboratories.

From General Electric Co. labs comes word that its thermionic converter displayed last year (IMD, Jan., p 54) has been reduced to a minute fraction of its original size. Today it is nothing more than a tiny metal-and-ceramic button.

And from the Massachusetts Institute of Technology comes a report from Drs. G. N. Hatsopoulos and Joseph Kaye (photo above) of a related development.

The two scientists call their instrument a thermo-electric engine. Like its GE predecessor, the new apparatus has no mechanical moving parts and generates its current by boiling electrons off a hot plate (1250 C) onto a cooler plate (550 C).

The apparatus has an efficiency of about 12%, but one of 30% appears feasible. About 1 volt of current per set of plates is delivered, but units can be connected in series for much higher voltages.

First application of the equipment probably will be in space satellites, missiles, and airborne auxiliary power systems. Radioactive isotopes or rocket-exhaust gases may be used to aid plate heating. (*Electrical World, July* 21, *p* 70; *Product Engineering, July* 21, *p* 17)

Welded into a 165-meter-long sheet, left, aluminized steel is ready to be ballooned up to form roof of giant grain bin, above.

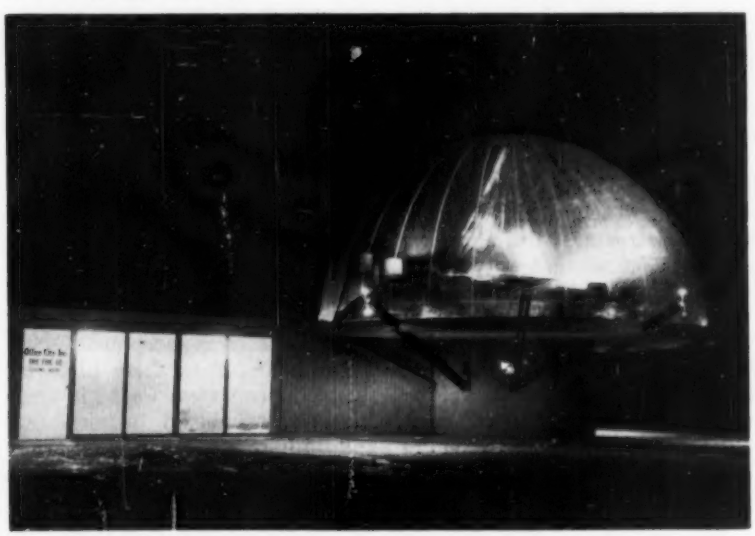
Air Takes the Place of Steel

BUILDINGS supported by air pressure have come a long way since they first served as enclosures for the protection of radio antennas and other military equipment in the Arctic. Some 200 air-buoyed structures today are aiding businessmen in the U. S. A., Europe, and North Africa by providing cheaper equipment sheds, grain warehouses, other commercial and industrial buildings.

The latest to be inflated is the huge warehouse shown in the photos above. Built in Texas for U. S. A.'s Cargill, Inc., the building will store up to 50,000 tons of grain.

The Cargill warehouse is roofed by 50 tons of aluminized steel sheeting, held in place by four fans maintaining an inside air pressure of 12 to 15 grams per square centimeter. The structure is about 165 meters long, 48 meters wide, and a little over 11 meters high. The roof is attached at both ends to semicircular metal walls.

The mammoth grain bin differs in both shape and materials from the normal air pressure structure. Most of these have been simple hemispheres (photo below). Materials have included a variety of plastics and synthetics.



AIR-SUPPORTED DOME serves as office and display for building promoters.

Various kinds of coated nylon have been the most common material. The Du Pont Co. has promoted nylon coated with either Neoprene or Hypalon synthetic rubber. Polyester and polyethylene films also seem promising.

Air-pressure buildings are inflated and then kept in place by small blowers. For small domes, the pressure may be as little as one half gram per square centimeter. The 12 to 15 grams per square centimeter of the Cargill warehouse amounts to less than 1% of pressure used in an automobile tire.

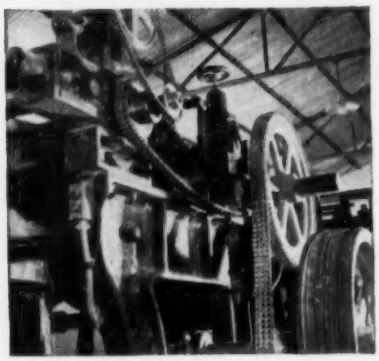
Considerable engineering skill goes into both material selection and erection of these novel buildings. An air-supported building was planned for the Brussels Fair, but the 112 by 68-meter hall tore while it was being inflated. The project was abandoned.

Erecting the huge Cargill warehouse meant first welding 155 sheets of aluminized steel into one airtight unit. The ends then were secured by flexible seals to the two semicircular walls, and one side anchored to the concrete floor. The other side was weighted with sand, and air was pumped under the sheet through openings in the floor.

As the steel balloon swelled, its sand anchor shifted but the air was held inside. When the struc-

Moving Bagasse

Making Twine



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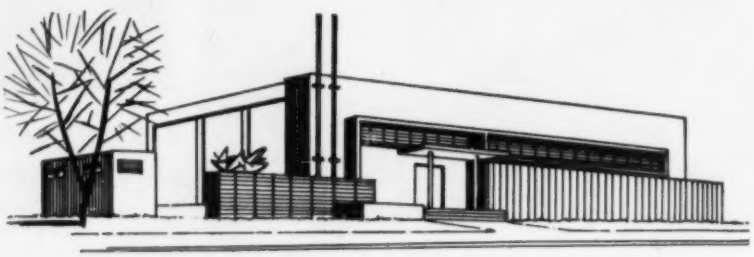
ture reached full height, the sand-weighted side was bolted down.

Air-supported sheds and warehouses cost less than half as much as alternative structures. Even when size demands special engineering services, costs average only about $9 to $18 a square meter, compared to the $30 to $90 for conventional structures. A 15-meter-diameter inflatable dome sells for something like $3,100.

Inflatable structures offer obvious advantages when storage is temporary and must be moved from time to time. Farmers are turning to them to store produce, factory managers for seasonal pile-up of inventories, contractors for storage of construction equipment. (*Business Week, July* 5, *p* 36; *Engineering News-Record, July* 10, *p* 25) ●



Same Factory Does Many Jobs

To encourage industry, Puerto Rico has built over 200 factory shells like the one shown above.

INDUSTRIAL DEVELOPMENT specialists all over the world have been keeping an eye on the experience of Puerto Rico. Especially this year, as the island Governor, Luis Munoz Marin, stresses Puerto Rico's expanding role as a Western Hemisphere laboratory of economic development.

One of the first things visitors are shown is "Standard *Fomento* Plants" (picture above). The government-sponsored PRIDCO (Puerto Rico Industrial Development Co.) today is turning out about three plants a month. They are leased—with an option to buy—to a wide variety of light industries, to manufacture anything from house dresses to electronic items.

PRIDCO's standard building came after several years of study and testing. The goal was a simple, adaptable structure at nominal cost—about $70,000—that would serve many manufacturing firms.

The basic Fomento building consists of a one-story structure about 36 meters long by 27 meters wide. There is no cellar, and the ceiling is 3.5 to 4 meters high. A minimum number of supporting columns are used—one or two rows—so that there always is at least 9 meters of space around columns.

The building covers an area of close to 1000 square meters, and is normally set on a lot of three to four times that size. This allows adequate space for parking and plant expansion. The structure is built of either cement, clay blocks or pre-cast concrete.

Electrical facilities for the basic building include only wiring for lighting and service entrances for power. Space for toilets is provided in a lean-to annex to the building.

Though all the Fomento buildings are of the same basic design, changes of entrance, paint color and landscaping give the factories a wide variation in appearance. Tenants can select the building colors they prefer; many have settled for a light green or cream.

PRIDCO has built some 250 factories in the last few years, about 210 of them of uniform design. While the program has been successful, many of the plants represent frozen assets which worry some government economists. Now a subsidiary, the Puerto Rico Industrial Investment Corp., is urging private industry to take over the building program—and holding out as an incentive exemptions from property and rental income taxes. (*Ingenieria Internacional Industria, July, p* 34) ●

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There are many reasons for the international use of Anderson vegetable oil milling Expellers. International oil millers choose Expellers for higher production, better quality oil and cake yield and low cost operation. These continuous screw presses have tremendous capacity—up to three times more than conventional screw presses. Combined with low residual oils, this high production makes them a sound investment for any oil miller.

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Ceramic Industry
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The Controller
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The Economist
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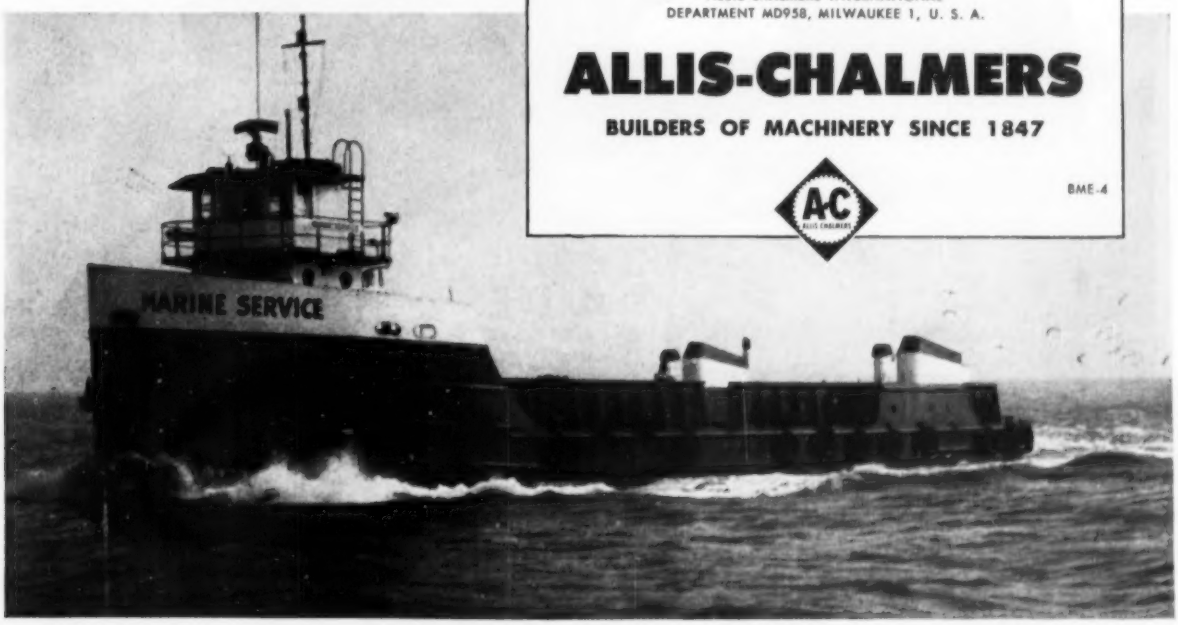

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YOU

Personal Affairs

Doing Business With the Russians

How do you go about doing business with the Russians? With the trade possibilities increasing, businessmen need to know. Recent articles in *Product Engineering* and *The Economist* provide some of the answers.

Russians place a high value on face-to-face contacts. The best way to make contacts, according to British experience, is at the trade shows frequented by Russians—Poznan and Leipzig, for instance, or even Hanover.

Alternatively, businessmen can write to the nearest Soviet Trade Delegation office, which will forward letters to a group purchasing organization. Direct contact with factories or regional economic councils is difficult.

Be forewarned that the Russians have one of the world's most effective and inexpensive paperwork systems—they simply don't answer letters.

Once a trader has established contacts and is ready for Moscow, he should apply for a business visa, listing the people he wants to see and why. If he gets the visa—and it is best not to be impatient—that means at least some of the people have decided to see him. Businessmen can go on a tourist visa, of course, but they are not likely to get much business done.

Arrangements are made through Intourist, the official travel bureau. De luxe service costs approximately $30 a day, including an interpreter and car for several hours a day, hotel and meal coupons. Excess meal coupons can be traded to the maitre d'hotel for vodka, cigarettes, etc. A group of British businessmen averaged an extra £25 a day each for entertainment.

Telephoning is the most frustrating part of a visit to Moscow. There is no telephone directory—and most officials have direct private lines. French and German seem to be the best-known foreign languages.

Russians are known to buy machinery just to copy or modify it; but if it is any consolation, they can get most machines through neutral channels. Most frequent payment arrangement is in full against shipping documents or 30 days after shipment—the Russians do not like down payments.

Notes about This and That

Air travelers should keep in mind the "duty-free" shops that keep springing up at international airports around the world.

The newest one is at Melsbroek Airport in Brussels; the oldest and largest is the one at Shannon Airport in Ireland. Most of them sell a wide variety of goods—French perfumes, German and Japanese cameras, Swiss watches, liquors, but with emphasis on quality local products.

In a test of driving fatigue, two drivers made a duplicate 2,300-mile trip—one in a 1958 U.S. car with power steering and push-button controls, the other in a 1929 roadster. Each night the drivers were rated by two physicians for signs of fatigue. The verdict: almost equal fatigue. It is the mental strain, not the physical labor, that fatigues you.

Selected lists of schools in Europe, Africa, Latin America, Australia, and the U.S.A.—with details on students, teaching staffs, and tuition—are included in *The Handbook of Private Schools, 1958* (Porter Sargent Co., Boston, U.S.A., $10).

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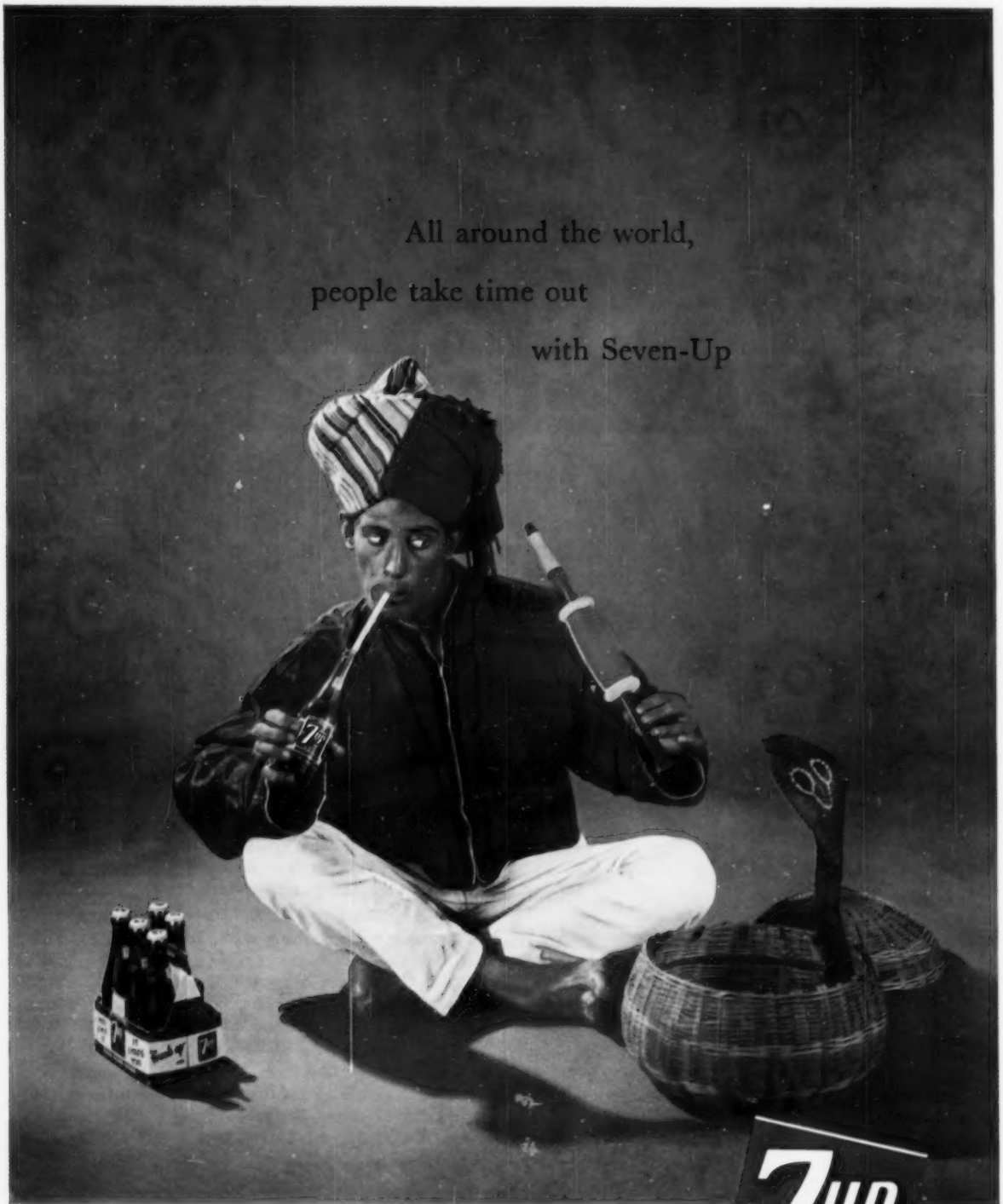

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